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ADDRESS.

CHAIRMAN'S ADDRESS.

Read before the Section on State Medicine, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

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It affords me pleasure, ladies and gentlemen of the Section on State Medicine, to congratulate you on this, the forty-seventh anniversary of the birth of the AMERICAN MEDICAL ASSOCIATION.

In 1847 great discoveries[1] were made in California, and that year marked the beginning of gigantic strides in the development of a great State. But great as that discovery was and rich as have been its results, who will say that the advent of your ASSOCIATION was not even of greater moment to the people of the whole country?

It is not within the chairman's province, nor would it be possible in the few moments at my disposal, to recite even the faintest outline of the work of the ASSOCIATION during the forty-seven years of its existence. Suffice it to say that the volumes of Transactions and the JOURNAL are in themselves a library of such monumental proportions that comparatively few practitioners have the time or opportunity to peruse their contents. Fortunately, for us, this is not necessary, for the very fountain-head of the ASSOCIATION is still with us, and no reference to the history or active work of the AMERICAN MEDICAL ASSOCIATION or the Section of State Medicine would be complete without mentioning the name of Prof. N. S. Davis, M.D., L.L.D., of Chicago, Ill.

It is only necessary to refer to his paper on "The AMERICAN MEDICAL ASSOCIATION and its Relations to Public Health," read in this Section at the annual meeting in June, 1889, to learn that "although the primary and potent influences that prompted the movement that resulted in the assembling of the convention of delegates in the City of New York, May, 1846, to effect a permanent National organization of the profession of the United States of America, was the desire to elevate the standard of professional education and thereby increase the usefulness and honor of the profession; yet even that preliminary convention did not pass without initiating important measures having a direct bearing on the interests of public health." A committee of five was appointed "to urge" and it did urge "upon the several State Governments the adoption of measures for the registration of the births, marriages and deaths of their several populations." The next year when the convention assembled in Philadelphia a standing committee was appointed with the same object in view, and when the whole organization was completed—or rather after it was commenced and had been christened the AMERICAN MEDICAL ASSOCIATION, the work of the said committee was so persistently and effectually prosecuted that one State after another fell into line until, at the time of his writing in 1889, "but few States in the Union were without laws of more or less efficiency on the important subject of vital statistics."

It would be impossible to over-estimate the importance of this early movement in the direction of the proper registration of vital statistics, for it is only after the attention of the people of any community is called to the mortality reports that any active or substantial support can be obtained in efforts at sanitary improvement; and as a matter of fact it is only by this means that health officers and sanitarians themselves can arrive at a proper understanding of the healthfulness and relative salubrity of different localities or, on the other hand, can see the necessity for ways and means for the discovery and, if possible, for the eradication of disease and death producing agencies.

At the next meeting, the second of the ASSOCIATION proper, in Baltimore, 1848, a "Committee on Hygiene" consisting of twelve members was appointed; and at the fourth meeting of the ASSOCIATION, in Boston, 1849, general reports were presented on the subject of street cleaning, water supply, drainage, ventilation, disinfectants, etc., and special papers on the sanitary condition of different cities. These reports and papers are masterpieces of the time in which they were written, and without them the sanitary history of a number of cities and towns and of States in the East and South would be incomplete.

Two years later, in 1851, the standing committees were abolished and the work was divided among a large number of special or district committees, covering the several States of the Union.

In the course of a few years the reports of these committees became so voluminous that notwithstanding their value concerning public hygiene, practical medicine and epidemic disease, many of them were of necessity read by title only and referred for publication.

At the annual meeting of 1859, on motion of Dr. J. B. Lindsley, of Tennessee, supported by Dr. Daniel Brainard, "a committee of three was appointed by the chair to inquire into and report upon the propriety of dividing the ASSOCIATION into Sections, for the purpose of performing such parts of its scientific labor as may relate to particular branches of medicine and surgery."

The committee recommended five divisions, and after a strong speech in its favor by Dr. N. S. Davis, the report of the committee was adopted and an amendment to the By-laws was authorized, limiting the general sessions to the forenoon of each day, and providing for the division of the ASSOCIATION into

[1] Gold.

five Sections: 1, Anatomy and Physiology; 2, Chemistry and Materia Medica; 3, Practical Medicine and Obstetrics; 4, Surgery; 5, Meteorology, Medical Topography, Epidemic Diseases, Medical Jurisprudence and Hygiene.

The Section plan was brought into active operation the year following and, with some changes and more additions has been in existence ever since that time. The short and somewhat comprehensive title of this Section, State Medicine, being the legitimate outcome of Section 5 already referred to.

What this Section, as part of the General Association, has accomplished in all these years of its usefulness is a matter of history. Previous to the organization of the American Medical Association there were comparatively few medical societies in existence and there was no *medical code* of National scope. State and county and city societies are now numbered by the thousands; and boards of health are no longer the exception but the rule in nearly all the States and municipalities, and in some instances have extended to the smallest divisions and subdivisions of the counties; as for example the law recently enacted in the State of Pennsylvania, providing for the establishment of boards of health in every borough and township in the State.

But if the Association has done so much in directing the thought and action of physicians collectively in the management of disease and in the line of preventive medicine or State medicine, if you please, how much more has its influence accomplished in the making of the physician himself? A mere comparison of the curriculums and the methods of teaching the science of medicine to-day with the method, or lack of method, that prevailed only a comparatively few years ago will answer the question satisfactorily to all who have eyes to see and ears to hear.

In these reform movements, however, and in our gratulation we must not forget the younger sister associations. Too much credit can not be given to the American Public Health Association now just coming of age,[2] and to the Medical College Association, and especially to our friend and associate and former chairman, the late Dr. John H. Rauch. To him, more perhaps than to any other individual, must be ascribed the credit for the rapid advancement towards the higher plane of medical education and sanitary science in this country. Dr. Rauch was, as you all know, for many years Secretary of the Illinois State Board of Health, and what that Board has accomplished need not be recited at this time. Its annual reports are entitled to a high place in medical literature. Ten years ago the *Boston Medical and Surgical Journal* in commenting on the report of that year said: "It represents a stupendous amount of labor, reflecting infinite credit upon its author, Dr. John H. Rauch, the Secretary of the Board, who deserves the thanks of every physician, student and patient in North America, for his unwearied efforts to obtain and present in available form the valuable information it supplies."

This encomium for the Illinois State Board of Health may also be applied to other State boards. All are doing good work, and some of them are said "to rival the boards of health in the general governments of the most enlightened countries in the world, especially in the immediate practical results of their work."[3]

[2] Organized in 1873.

The principle seems to be firmly established that it is the duty of the State to pass laws for the restriction or prevention of contagious or infectious disease, and it is through the proper enactment and execution of such laws that the most powerful argument can be brought to bear upon the general government for additional, supplemental, or controlling legislation in everything pertaining to public health or State Medicine.

One of the very first quarantines in the United States was established by the State (then the Province) of Pennsylvania in the year 1700. The title of the act was "An Act to prevent sickly vessels coming into this Government." The following is the text:

"WHEREAS, It hath been found by sad experience, that the coming and arriving of unhealthy vessels at the Ports and Towns of this Province and Territories, and the Landing of their Passengers and Goods before they have lain some time to be purified, hath proved very detrimental to the Health of the Inhabitants of this Province.

"Be it therefore Enacted by the Proprietary and Governor, by and with the Advice and Consent of the Freemen of this Province and Territories in General Assembly met and by the Authority of the same, That from and after the Publication hereof no unhealthy or sickly Vessels coming from any unhealthy or sickly Place whatsoever, shall come nearer than one mile to any of the Towns or Ports of this Province or Territories, without Bills of Health; nor shall presume to bring to shore such Vessels nor to land such passengers or their Goods at any of the said Ports or Places until such time as they shall obtain a License for their Landing at Philadelphia from the Governor and Council or from any two Justices of the Peace of any other Port or County of this Province of Territories under the Penalty of *One Hundred Pounds* for every such unhealthy Vessel so Landing as aforesaid, to the use of the Proprietary and Governor, and that suitable Provision be ordered by the Governor and Council for their Reception if they shall be permitted to Land or come on Shore."

The next year, in 1701, Massachusetts passed a similar act: "An Act providing in case of sickness, That for the better preventing the spreading of Infection, etc.," and in 1723 an additional act was passed "requiring Vessels to anchor near the House (quarantine hospital) on Spectacle Island provided at the Charge of the Province." The penalty for violating the law in this Province was in case of master of vessel fifty pounds; sailors and passengers were fined only ten pounds. This act was in the nature of an experiment and was limited to the end of the session of the court in which it was enacted. It was revived, however, by a later Act, and continued in force until the end of the session of the General Court in May, 1728.

The first National law was passed by the United States Congress in 1799. (R. S. 4792):

"The quarantines and other restraints established by the health laws of any State respecting any Vessels arriving in, or bound to, any port or district thereof, shall be duly observed by the officers of the Customs revenue of the United States, by the Masters and crews in any port or station upon the seacoast; and all such officers of the United States shall faithfully aid in the execution of such quarantine and health laws according to their respective powers and within their respective precincts and as they shall be directed from time to time by the Secretary of the Treasury."

Other Sections of this Act provide: *a*, for the discharge of cargo of vessel in quarantine; *b*, for the erection of quarantine warehouses; *c*, for extending time for entry of vessels, subject to quarantine; *d*, for removal of revenue officers from port when contagious or epidemic disease prevails; *e*, for removal

[3] Dr. Baker, Secretary State Board of Health of Michigan, President's Address, American Public Health Association, 1890.

of public offices from the capital; *f*, for the adjournment of United States courts when contagious or epidemic sickness shall render it hazardous to hold the next stated session of the Court at the seat of Government; *g*, for the removal of prisoners to the next adjacent prison where contagious or epidemic disease does not prevail.

It was under this law nearly one hundred years later, in 1875, that the first circular letter of instructions was issued to United States officers, defining their duties with reference to quarantine and public health. The medical officers of the Marine-Hospital Service were especially directed to inform themselves fully as to the local health laws and regulations based thereon and in force at their respective ports and stations; and strict compliance with such laws and prompt assistance in the enforcement of the same, when requested by competent authority were enjoined.

In 1878 a law was passed establishing a National quarantine. It was entitled, "An Act to prevent the introduction of contagious or infectious diseases into the United States," and it charged the Supervising Surgeon-General of the Marine-Hospital Service, under the direction of the Seeretary of the Treasury, "with the execution of the provisions of the Act," and empowered him "to frame all needful rules and regulations," subject to the approval of the President, but "not to conflict with or impair any sanitary or quarantine laws or regulations of any State or municipal authorities."

This was a good law so far as it went, but was incomplete in that no appropriation was made to carry it into effect. Under its provisions, however, medical officers of the Marine-Hospital Service and Customs officers were required to "aid in the enforcement of the National quarantine rules and regulations," and in this manner considerable aid was furnished to municipal and State health officers; and the *Weekly Bulletin of Public Health* was issued from the office of the Supervising Surgeon-General. During this same year (1878) the terrible yellow fever epidemic occurred in the Mississippi Valley and in February following, Congress passed another law (Act approved Feb. 3,1879) establishing the National Board of Health. The latter act embodied all the essential provisions of the former, but changed the executive authority and carried with it a large appropriation which enabled the several members of the Board and the experts they employed to accomplish a great amount of good work.

But the large appropriation for the support of this Act was limited to a period of four years, and at the expiration of that time the active operations of the Board virtually came to an end. The law of 1878 was then revived and became operative by means of the contingent fund appropriated by Congress to be expended by the President of the United States in his discretion, in preventing the spread of epidemic disease and in maintaining quarantines at points of danger.

The work contemplated by the appropriation act was then continued through the agency of the Marine-Hospital Service in aid of State and local boards of health, and in accordance with the Act of April 29, 1878.

The precedent thus established of requiring the medical officers of the Marine-Hospital Service to perform the active work of quarantine has been followed up to this time; and by the recent Act of Congress (approved Feb. 15, 1893) additional quarantine powers have been granted and additional duties imposed on the Service, making it in reality and in addition to its ordinary functions a general maritime quarantine and public health service.

Under the laws of 1878 and 1879, quarantine stations were established at several points on the Atlantic coast, and inspection stations at various times were maintained at points of danger on the frontier. Sanitary inspectors were also stationed at Havana and Vera Cruz to give prompt notification relative to the sailing of vessels bound for the United States so as to aid in the prevention of the introduction of yellow fever. At London and Liverpool, inspectors were appointed to give timely information of the shipment of Egyptian rags or any other articles sent through those ports from infected localities. Inspectors were also appointed at the principal European ports to inspect vessels and emigrants bound for the United States. In 1885 a section for the government of National quarantine was added to the regulations of the Marine-Hospital Service, and the whole was approved by the Secretary of the Treasury and by the President of the United States. In January, 1886, the publication of the *Weekly Abstract of Sanitary Reports*, as required by the Act of 1878 was resumed. In 1888 a law was passed (approved August 1) making the National quarantines[4] on the Atlantic and Gulf coasts permanent institutions and providing for the establishment of three stations on the Pacific coast. An appropriation of $500,000 was made to carry out the purpose of this Act. In 1890 an act was passed to prevent the introduction of contagious diseases from one State to another and for the punishment of certain offenses.

The latest and most comprehensive legislation affecting the maritime quarantine, and the nearest approach to legislation contemplating a complete National quarantine service, is contained in the Act (approved Feb. 15, 1893) already referred to, granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service. The following is the text:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be unlawful for any merchant ship or other vessel from any foreign port or place to enter any port of the United States except in accordance with the provisions of this act and with such rules and regulations of State and municipal health authorities as may be made in pursuance of, or consistent with, this act; and any such vessel which shall enter, or attempt to enter, a port of the United States in violation thereof shall forfeit to the United States a sum,to be awarded in the discretion of the court, not exceeding five thousand dollars, which shall be a lien upon said vessel, to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States district attorney for such district shall appear on behalf of the United States; and all such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

SEC. 2.—That any vessel at any foreign port clearing for any port or place in the United States shall be required to obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, or from the medical officer where such officer has been detailed by the President for that purpose, a bill of health, in duplicate, in

[4] National Maritime Quarantines are located at Tortugas Islands, Fla; Blackbeard's Island, Ga.; Cape Charles, Va.; Delaware Breakwater, Del.; Reedy Island, Delaware River; Port Townsend, Washington; San Francisco and San Diego, Cal.

The quarantine station at Chandeleur Island in the Gulf was destroyed last season by a hurricane, and in this terrible disaster the steward and several employes lost their lives.

the form prescribed by the Secretary of the Treasury, setting forth the sanitary history and condition of said vessel, and that it has in all respects complied with the rules and regulations in such cases prescribed for securing the best sanitary condition of the said vessel, its cargo, passengers, and crew; and said consular or medical officer is required, before granting such duplicate bill of health, to be satisfied that the matters and things therein stated are true; and for his services in that behalf he shall be entitled to demand and receive such fees as shall by lawful regulation be allowed, to be accounted for as is required in other cases.

The President, in his discretion, is authorized to detail any medical officer of the Government to serve in the office of the consul at any foreign port for the purpose of furnishing information and making the inspection and giving the bills of health hereinbefore mentioned. Any vessel clearing and sailing from any such port without such bill of health, and entering any port of the United States, shall forfeit to the United States not more than five thousand dollars, the amount to be determined by the court, which shall be a lien on the same, to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States district attorney for such district shall appear on behalf of the United States; and all such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

SEC. 3.—That the Supervising Surgeon-General of the Marine-Hospital Service shall, immediately after this act takes effect, examine the quarantine regulations of all State and municipal boards of health, and shall, under the direction of the Secretary of the Treasury, coöperate with and aid State and municipal boards of health in the execution and enforcement of the rules and regulations of such boards and in the execution and enforcement of the rules and regulations made by the Secretary of the Treasury to prevent the introduction of contagious or infectious diseases into the United States from foreign countries, and into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia; and all rules and regulations made by the Secretary of the Treasury shall operate uniformly and in no manner discriminate against any port or place; and at such ports and places within the United States as have no quarantine regulations under State or municipal authority, where such regulations are, in the opinion of the Secretary of the Treasury, necessary to prevent the introduction of contagious or infectious diseases into the United States from foreign countries, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, and at such ports and places within the United States where quarantine regulations exist under the authority of the State or municipality which in the opinion of the Secretary of the Treasury, are not sufficient to prevent the introduction of such diseases into the United States, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, the Secretary of the Treasury shall, if in his judgment it is necessary and proper, make such additional rules and regulations as are necessary to prevent the introduction of such diseases into the United States from foreign countries, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, and when said rules and regulations have been made they shall be promulgated by the Secretary of the Treasury and enforced by the sanitary authorities of the States and municipalities, where the State or municipal health authorities will undertake to execute and enforce them; but if the State or municipal authorities shall fail or refuse to enforce said rules and regulations the President shall execute and enforce the same and adopt such measures as in his judgment shall be necessary to prevent the introduction or spread of such diseases, and may detail or appoint officers for that purpose. The Secretary of the Treasury shall make such rules and regulations as are necessary to be observed by vessels at the port of departure and on the voyage, where such vessels sail from any foreign port or place to any port or place in the United States, to secure the best sanitary condition of such vessel, her cargo, passengers, and crew; which shall be published and communicated to and enforced by the consular officers of the United States. None of the penalties herein imposed shall attach to any vessel or owner or officer thereof until a copy of this act, with the rules and regulations made in pursuance thereof, has been posted up in the office of the consul or other consular officer of the United States for ten days, in the port from which said vessel sailed; and the certificate of such consul or consular officer over his official signature shall be competent evidence of such posting in any court of the United States.

SEC. 4.—That it shall be the duty of the Supervising Surgeon-General of the Marine-Hospital Service, under the direction of the Secretary of the Treasury, to perform all the duties in respect to quarantine and quarantine regulations which are provided for by this act, and to obtain information of the sanitary condition of foreign ports and places from which contagious and infectious diseases are or may be imported into the United States, and to this end the consular officer of the United States at such ports and places as shall be designated by the Secretary of the Treasury shall make to the Secretary of the Treasury weekly reports of the sanitary condition of the ports and places at which they are respectively stationed, according to such forms as the Secretary of the Treasury shall prescribe; and the Secretary of the Treasury shall also obtain, through all sources accessible, including State and municipal sanitary authorities throughout the United States, weekly reports of the sanitary condition of ports and places within the United States, and shall prepare, publish, and transmit to collectors of customs and municipal health officers and other sanitarians, weekly abstracts of the consular sanitary reports and other pertinent information received by him, and shall also, as far as he may be able, by means of the voluntary coöperation of State and municipal authorities, of public associations and private persons, procure information relating to the climatic and other conditions affecting the public health, and shall make an annual report of his operations to Congress, with such recommendations as he may deem important to the public interest.

SEC. 5.—That the Secretary of the Treasury shall from time to time issue to the consular officers of the United States and to the medical officers serving at any foreign port, and otherwise make publicly known, the rules and regulations made by him, to be used and complied with by vessels in foreign ports, for securing the best sanitary condition of such vessels, their cargoes, passengers, and crew, before their departure for any port in the United States, and in the course of the voyage; and all such other rules and regulations as shall be observed in the inspection of the same on the arrival thereof at any quarantine station at the port of destination and for the disinfection and isolation of the same, and the treatment of cargo and persons on board, so as to prevent the introduction of cholera, yellow fever, or other contagious or infectious diseases; and it shall not be lawful for any vessel to enter said port to discharge its cargo, or land its passengers, except upon a certificate of the health officer at such quarantine station certifying that said rules and regulations have in all respects been observed and complied with, as well on his part as on the part of the said vessel and its master, in respect to the same and to its cargo, passengers and crew; and the master of every such vessel shall produce and deliver to the collector of customs at said port of entry, together with the other papers of the vessel, the said bills of health required to be obtained at the port of departure and the certificate herein required to be obtained from the health officer at the port of entry; and that the bills of health herein prescribed shall be considered as part of the ship's papers, and when duly certified to by the proper consular or other officer of the United States, over his official signature and seal, shall be accepted as evidence of the statements therein contained in any court of the United States.

SEC. 6.—That on the arrival of an infected vessel at any port not provided with proper facilities for treatment of the same, the Secretary of the Treasury may remand said vessel, at its own expense, to the nearest National or other quarantine station, where accommodations and appliances are provided for the necessary disinfection and treatment of the vessel, passengers and cargo; and after treatment of any infected vessel at a National quarantine station, and after certificate shall have been given by the United States quarantine officer at said station that the vessel, cargo, and passengers are each and all free from infectious disease, or danger of conveying the same, said vessel shall be admitted to entry to any port of the United States named within the certificate. But at any ports where sufficient quarantine provision has been made by State or local authorities the Secretary of the Treasury may direct vessels bound for said ports to undergo quarantine at said State or local station.

SEC. 7.—That whenever it shall be shown to the satisfaction of the President that by reason of the existence of cholera or other infectious or contagious diseases in a foreign country there is serious danger of the introduction of

the same into the United States, and that notwithstanding the quarantine defense this danger is so increased by the introduction of persons or property from such country, that a suspension of the right to introduce the same is demanded in the interest of the public health, the President shall have power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate and for such period of time as he may deem necessary.

SEC. 8.—That whenever the proper authorities of a State shall surrender to the United States the use of the buildings and disinfecting apparatus at a State quarantine station, the Secretary of the Treasury shall be authorized to receive them and to pay a reasonable compensation to the State for their use, if in his opinion they are necessary to the United States.

SEC. 9.—That the Act entitled, "An Act to prevent the introduction of infectious or contagious diseases into the United States, and to establish a National Board of Health," approved March 3, 1879, be, and the same is hereby, repealed. And the Secretary of the Treasury is directed to obtain possession of any property, furniture, books, papers, or records belonging to the United States which are not in the possession of an officer of the United States under the Treasury Department which were formerly in the use of the National Board of Health or any officer or employé thereof.

New quarantine regulations were framed by a board[5] of surgeons under the direction of the Supervising Surgeon-General immediately after the law was passed, and the said regulations were promulgated by the Secretary of the Treasury. Under the provisions of the law, medical officers of the Marine-Hospital Service were, last year when cholera threatened, detailed by the President to serve in the office of and in association with the United States consular officers at various foreign ports, and from them all necessary information was received relative to the sanitary condition of vessels, cargo, crew and passengers about to depart for the United States. By this means the consular bill of health was made to be a certificate of actual observation by a responsible medical officer whose sole duty was to prevent, if possible, the introduction of contagious and infectious diseases into the United States.

Under the laws of March 3, 1891 and March 3, 1893, all immigrants arriving in this country are examined and passed upon by medical officers of the Marine-Hospital Service, the object being to detect, and to recommend to the commissioner of immigration for deportation, persons of the excluded class, such as idiotic, insane persons, persons likely to become a public charge and persons suffering from a loathsome or a dangerous contagious disease. The proper performance of this duty must also of necessity result in valuable aid to public health.

These examinations may now be regarded not only as supplementary to the examination and work of the quarantine officer in his efforts to prevent the introduction of the diseases quarantinable at the maritime quarantine, as for example cholera, yellow fever and smallpox, but also such diseases of municipal quarantine as diphtheria, scarlet fever, measles and in some instances tuberculosis, and of what ought to be but unfortunately is not included in the ordinary category of quarantinable diseases, *syphilis*.

If, as a great master has said: "State Medicine does everything necessary to protect the health of communities and States—investigates the air we breathe, the water we drink, the food we eat, the clothes we wear, the fuel we burn, the houses we live in, the soil we cultivate, the habits and industries of life, the origin and nature of endemics and epidemics, the method of their transmission, and the means of their prevention and of their suppression wherever found." If "its object is to discover the causes, and to prevent the origination of disease, to prevent its spread, to circumvent it, to extinguish it, whether it be zymotic, contagious or specific. In short," if "it is the function of State Medicine to protect the public health, which is the life of the nation," why is it that one of the most contagious (when brought in personal contact) and the most widely distributed and destructive diseases, in its remote effects, of the human race, is not officially and legally placed in the category where it properly belongs? Echo answers why?

Can it be that the seed sown or rather the great tree planted in this ASSOCIATION twenty years ago by the "Nestor of American Surgery,"[6] and which was so bountifully nourished two years later by the President[7] of the ASSOCIATION is not to bear any fruit? In looking back along the course of eighteen or twenty years one can see that here and there a vigorous graft was placed upon it, but yet it bears no fruit.

With reference to the destructive character of the disease Dr. Gross said:[8] "When a pestilence, as for example, that of cholera or smallpox, breaks out in a country and threatens to decimate its population every man's fears are at once aroused, and steps taken to counteract its progress; every citizen is upon the alert, and every newspaper is urgent in its appeals for help; but here is a disease a thousand times worse than the most deadly epidemic, doing its work slowly and, as it were in disguise and darkness, ruining entire families, destroying many of our best men and women, and laying the foundation of untold misery, wretchedness and woe, not unfrequently extending through several generations and literally poisoning the very fountains of life."

Dr. Sims remarked:[9] "The subject of syphilis is rarely mentioned in polite circles, even by medical men, and then only in whispers. It is our duty to enlighten the public upon all questions of public health, and particularly upon this one. . . . So far as the well-being of the human race is concerned I look upon the subject of syphilis as the great question of the day. . . . A greater scourge than yellow fever and cholera and smallpox combined is quietly installed in our midst, sapping the foundations of society, poisoning the sources of life, rendering existence miserable, and deteriorating the whole human family."

Dr. Ricord, the highest authority in all matters pertaining to specific disease said: "Syphilis is the greatest plague that menaces civilization."

Dr. Albert H. Gihon in his address as chairman of this Section on State Medicine, twelve years ago, said: "It is premature to expect the public to believe that they are in danger, or legislators who spring from the ranks of that public to frame protective laws, until they see demonstrated in figures that the venomous brood of smallpox, diphtheria, scarlet fever and yellow fever has a dread sister in venereal disease whose victims are not, like those of diphtheria, quickly carried to the graveyard but linger on earth, suffering living death."

During the same year, 1882, a committee of the American Public Health Association of which Dr.

[5] Revised regulations issued under date of April 26, 1894.

[6] The late Dr. Samuel D. Gross.

[7] The late Dr. J. Marion-Sims.

[8] Address in Surgery, American Medical Association, 1874.

[9] President's Address, American Medical Association, 1876.

Gihon was chairman submitted the draft of a bill having for its object the restriction of syphilis. The bill was carefully prepared and did not differ materially from the laws and municipal regulations governing in the management of other contagious diseases dangerous to the public health. The committee proposed that the bill be referred to the different State and Territorial Legislatures for adoption, but upon this proposition the ASSOCIATION refused to take any action whatever, notwithstanding the fact that only two years before, in 1880, the same ASSOCIATION by a large majority passed a resolution "recommending municipal and State boards of health to urge upon the legislative bodies of this country the enactment of a law for the prevention of venereal diseases."

I do not know how to account for such apparently diametrically opposite action on the part of a great association within so short a period, unless it be on the ground described by Dr. Lomax[10] as "the apathy which at the present day stupefies the mind and conscience of a community in regard to legal interposition as a remedy for this curse, is so unpromising of early beneficial results as almost to preclude it from the prophylactic program of sanitarians. And yet the popular will is so spasmodic in its evolutions and tergiversations, and so plastic in its capabilities, as possibly to bring the benign opportunity within the range of practical accomplishments in an unexpectedly brief period of time. At all events the subject should be constantly paraded before the public gaze, and its importance pressed upon the attention of the people until it receives due consideration at their hands."

It is not my purpose to recite the various methods or avenues through which syphilis may be and is acquired, *innocently* or *otherwise*, nor to discuss that worst of all forms of the disease, *inherited syphilis*. Suffice it to say that according to a late estimate there are now in the United States 6,000,000 of people infected with the disease, and a considerable proportion of this number is made up of persons who have not only acquired the disease innocently, but who are in absolute ignorance as regards the character or cause of the malady from which they are suffering.

An admirable paper on "Syphilis Insontium; A Plea for the Restriction of Syphilis and a Suggestion for the Prevention of its Spread," by Dr. L. Duncan Bulkley, of New York, was read by title in this Section at the last annual meeting at Milwaukee, and published in the JOURNAL under date of Nov. 11, 1893. I trust this paper has been read by every member of the ASSOCIATION. It ought to be read by every physician, sanitarian, philanthropist and legislator in the land. It is brief and to the point on "Syphilis of Innocents"—marital syphilis, syphilis in females, in public and private practice, hereditary syphilis and infant mortality, and lastly but by no means least, the *extra-genital* communication of the disease.

"This," as he says, "is a vast subject, which has been greatly developed of late years, and one which will occupy the serious attention of every physician and sanitarian. . . . The individual with syphilis is not only in danger of communicating the disease in marital relations, and almost sure to do so, and is also most likely to transmit more or less of the taint to the offspring, if they survive, but is also himself or herself a constant menace to society by virtue of the contagious character of the disease, in some of its manifestations, even for a long period of time."

In referring to the title of his paper, "Syphilis of the Innocents," the author said: "We approach the subject of the restriction of the spread of syphilis solely from this aspect, and argue for the control of the disease by health authorities wholly on behalf of the vast army of innocent sufferers from a disease which is absolutely preventable, provided the absolutely proper measures could be and were absolutely carried out. The proper measures for its restraint will never be instituted until the public is thoroughly alive to the relative frequency and importance of syphilis as a non-venereal disease, and the rights and claims of those who may be innocently infected thereby."

The present widespread discussion and the adoption of measures by different organizations and municipalities for the restriction of tuberculosis, notably the recent action of the health department of the city of New York, ought to, and doubtless will, tend to encourage similar discussion and action with regard to syphilis, not because of any possible or special relationship between these two diseases, but rather on the ground that they are equally widespread and baneful in their effects on mankind; and the measures with few exceptions already recommended for adoption and actually adopted by health authorities for the prevention of the spread of tuberculosis, will be equally effectual, if properly applied, for the restriction of syphilis.

Some encouragement for the workers in the line of progress may also be derived from the decision of the courts in at least two of the States, where it has been decided that syphilis pleaded in answer to an action to recover damages for breach of promise of marriage is a *complete defense*.

But I have reached the limits of the time at my disposal. Thanking you for your kind attention and especially for the high honor you have conferred upon me by calling me to preside over your deliberations, and begging your indulgence and kindly cooperation in the discharge of the duties pertaining to the chair, I now declare the Section of State Medicine open and ready for the transaction of business, and for the reading and discussion of papers as laid down in the program.

NOTE.—Since writing this paper Dr. Bulkley has published a volume of over 300 pages on "Syphilis of the Innocents."

[10] Syphilis; its Prophylaxis. In Annual Report State Board of Health of Indiana, 1883.

MINUTES OF THE SECTION ON STATE MEDICINE.

FIRST DAY—JUNE 5.

The Section convened in Friendship Hall, Odd Fellows Building, Corner Seventh and Market Streets, DR. GEORGE W. STONER, U. S. Marine-Hospital Service, in the chair. In the absence of the Secretary, Dr. Charles H. Shepard of Brooklyn, Dr. Liston H. Montgomery, of Chicago, was unanimously elected Secretary *pro tem.* The first session was held at 3 P.M. Tuesday, June 5, and in addition to the above named gentlemen were, among others, the following: Dr. H. S. Orme, Los Angeles, Cal., Ex-President California State Board of Health; Dr. C. A. Ruggles, Stockton, Cal., President California State Board of Health; Dr. W. F. Wiard, Sacramento, Cal., member California State Board of Health; Dr. J. R. Laine, Sacramento, Cal., Secretary California State Board of Health; Dr. Jerome Cochran, Mobile, Ala., President

Alabama State Board of Health; Dr. H. D. Thomason, Albion, Mich., member Michigan State Board of Health; Dr. John Godfrey, U. S. M. H. S., San Francisco; Dr. J. H. Stallard, M.B., London, Eng.; Dr. Charles E. Winslow, Albuquerque, N. M.; Dr. S. S. Herrick, San Francisco; Dr. J. H. Davisson, Los Angeles, member California State Board of Health; Dr. John W. O'Neill, Chicago; Dr. A. J. Erwin, Mansfield, Ohio; Dr. Gerard Geo. Tyrrell, Sacramento, Cal.; Dr. Thomas Ross, Sacramento, Cal.; Dr. M. M. Chipman, San Jose, Cal.; Dr. M. F. Price, Los Angeles, Cal.; Dr. C. E. Stone, Marysville, Cal.; Dr. Charles N. Cooper, Campbell, Cal.; Dr. Joseph A. Oliver, San Francisco, Cal.; Dr. W. R. Clunoss, San Francisco, Cal.; Dr. Benjamin T. Kierulff, Los Angeles, Cal.

Dr. Stoner read his annual address.

The first paper of the session was

ON THE PRINCIPLES OF SANITARY SCIENCE, THE CHIEF OBSTACLES TO THEIR PRACTICAL APPLICATION AND THE MOST EFFICIENT MEANS FOR THE REMOVAL OF SUCH OBSTACLES

by Prof. N. S. Davis, of Chicago. As the venerable teacher was unavoidably absent he furnished the Section with an outline of an elaborate paper of which he was preparing the synopsis. This was read by the Chairman and was briefly discussed.

1. The principles of sanitary science or preventive medicine are based on correct knowledge concerning the causes of disease, both specific and predisposing, and the conditions or circumstances that favor or hinder the production or propagation of such causes. The question is discusssd whether at the present time the attention of sanitarians is not given too exclusively to the specific causes, more especially of a bacteriologic character and their ptomaines; while much more might be accomplished by giving more attention to the predisposing influences both as regards those pertaining to the individual and to his surroundings. Are not many, if not all, of the pathogenic germs really morphologic deviations from various non-pathogenic germs under morbid conditions either within the body or adversely affecting its surroundings, always present, but harmless, until thus acted upon by unfavorable influences? And would not much greater benefit result by giving more attention directly to personal hygiene and domiciliary conditions than has been given heretofore?

2. It is claimed that the chief obstacles to the practical application of sound principles of sanitation are the deficiency of knowledge on the part of the great majority of the people; their tenacious adherence to established customs, fashions, and modes of living; and the difficulty of procuring the enactment of needed sanitary laws, and the still greater difficulty of securing their honest, persistent and efficient execution.

3. It is stated that the most efficient means for the removal of the foregoing obstacles are, better education of the people on sanitary topics by frequent public meetings under direction of the State and local boards of health; by judicious articles in the daily secular press; by more quiet, though efficient instruction in family circles by practicing physicians during their ordinary professional intercourse, and especially by persistent efforts to impart to the people more correct knowledge concerning the laws governing the production and diffusion of contagion and infection, and the readiness with which they are destroyed by free contact with pure air, good water, and bright sunlight, that their exaggerated fears and prejudices may be removed.

The question how far the present methods of arresting the spread of contagious and infectious diseases by isolation and disinfection are successful is discussed—and continued in an elaborate paper.

Upon motion of Dr. Jerome Cochran, the Secretary was authorized to request Dr. Davis to furnish a copy of his paper in its entirety for publication in the Journal.

At this juncture a notice was received from Dr. L. Duncan Bulkley, Secretary, requesting the Chairman to appoint three substitutes on the Business Committee for this session, in place of Drs. C. A. Lindsley, Benjamin Lee and R. Harvey Reed, all of whom were absent, resulting in the appointment *pro tem.* of Drs. Jerome Cochran, C. A. Ruggles and W. F. Wiard.

Dr. Cochran moved, duly seconded, that we discuss the suggestions or topics in the Chairman's address. Also, those embodied in Dr. Davis' paper. Carried. A protracted and interesting discussion then ensued which was participated in by Drs. Cochran, S. S. Herrick, J. H. Stallard, J. R. Laine, H. D. Thomason, the Chairman and others.

The Secretary then read a biographical sketch of the late Dr. John H. Rauch. A committee was appointed to prepare a suitable preamble and resolution regarding the deceased to be read first before this Section and then submitted to the Association. The following gentlemen constituted the committee: Drs. C. A. Ruggles, H. D. Thomason and Liston H. Montgomery.

The Chairman appointed the following Nominating Committee: Drs. C. A. Ruggles, J. R. Laine and John Godfrey, and at 4:45 P.M. the session adjourned.

SECOND DAY—JUNE 6.

The second day's session convened at 2:30 P.M., with Dr. Stoner in the chair. The first business transacted was the report of the Committee on Nominations for officers of the Section for the ensuing year, which was unanimously adopted, resulting in the election of Liston H. Montgomery, Chicago, Chairman; Charles H. Shepard, Brooklyn, N. Y., Secretary.

Executive Committee: John Godfrey, U. S. M. H. S., San Francisco; C. A. Lindsley, New Haven, Conn.; Benjamin Lee, Philadelphia, Pa.

The first paper read was entitled

THE PHYSICIAN AND STATE,

by Dr. Charles E. Winslow, Albuquerque, N. M. The paper was heartily approved. One of the many interesting portions which is quoted at this time is the following: "It is a fact that healthy nations are wealthy nations, proving that public health is of great commercial value. This being true, is it not worthy a place in the Cabinet? If the improvement and preservation of plant and animal life are important enough to need a representative in the Cabinet, vastly more important is that which prevents sickness, prolongs life, protects homes, uplifts humanity, adds wealth to the State and is the life blood of the Nation." Discussion was participated in by Drs. Orme, Ruggles, Godfrey, Stallard and Thomason.

A FEW REMARKS ON LEPROSY

is the title of a short valuable paper read by Dr. Henry S. Orme, of Los Angeles, Cal. The author thinks there are more cases of leprosy in California than is known. The most important conclusions reached were that leprosy is not kindred to syphilis or tuberculosis; that it is contagious and that it is not diffused by hereditary transmission. There is abundant proof that the plan of segregation will in time cause leprosy to disappear, providing it be rigorously enforced. In Dr. Orme's judgment all lepers should be legally registered and kept under surveillance by the sanitary authorities, so that they may be isolated whenever necessity occurs. The law might provide for periodical inspection, and certificates of the same to those allowed to be at large. The discussion was continued by Drs. Ruggles, Stallard, J. H. Davisson, Ross, Cochran, S. S. Herrick, W. F. Wiard and the author

The next paper for consideration was

RESTRICTION OF TUBERCULOSIS,

by DR. J. H. DAVISSON, of Los Angeles, member of California State Board of Health. The paper was discussed by Drs. Ruggles, Cooper, Stallard, Cochran and Godfrey.

A very carefully prepared paper,

A STUDY OF THE EFFECTS OF POISONED AIR IN THE CAUSATION OF INEBRIETY,

was read by DR. T. D. CROTHERS, Superintendent Walnut Lodge Hospital, Hartford, Conn. Said the author, in part, in his conclusions: A society of aerationists, who would seek to show how disease could be prevented and life lengthened by always breathing pure air, would do some real work for the elevation of humanity. Specific hunters and reformers will find an open field and unlimited scope for research in the air we breathe, and its influence in increasing or diminishing disease. That inebriety is caused by bad air in some cases, and is largely influenced by both good and bad air in all cases is a fact unquestioned. Rational medicine demands a study of all conditions of living and surroundings in the questions of diagnosis; it demands that disease and diseased conditions should be regarded as physical entities. Discussion by Dr. Stallard, of London, who maintained that in that metropolis squalor and poor surroundings increased inebriety, and by Drs. Godfrey, Herrick and Anderson.

The committee appointed to take notice and prepare resolutions of respect upon the death of their late fellow, Dr. J. H. Rauch, submitted the resolutions published in the JOURNAL, page 954, June 23, 1894, which were upon motion unanimously adopted and referred to the ASSOCIATION.

The Section then adjourned.

THIRD DAY—JUNE 7.

Section convened at 2:35 P.M. with DR. GEO. W. STONER in the chair and twenty-two members present. The first paper was presented by DR. S. S. HERRICK, of San Francisco, entitled

COMMON CARRIERS AS DISSEMINATORS OF CONTAGION.

The writer dwelt more particularly on the disposal of the excretions of travelers on inland waters and on railway coaches; that certain communicable diseases whose contagious property is discharged from the alimentary canal is liable to reach the alimentary or respiratory tract of other persons if not intercepted or destroyed, and cholera, typhoid fever, dysentery, intestinal tuberculosis and other filth diseases were named as notable examples in this respect. Companies who provide meager accommodations for passengers were properly censured, and should be held justly responsible if inadequate remedies were provided for their patrons. In Dr. Herrick's judgment the time had arrived for sanitarians to speak plainly and forcibly on the subject, and to demand of legislators a specific remedy which courts will be bound to apply to this class of offenders against health. Discussion by Drs. Ruggles and Cochran, Davisson and Stoner, all of whom were in accord with the opinions advanced by Dr. Herrick.

The second paper presented to the Section this afternoon was

STATE MEDICINE; ITS RELATION TO PATENT MEDICINE,

by DR. SAMUEL P. DUFFIELD, of Detroit, Mich. In the absence of the author the paper was read by Dr. Stoner. Cases were cited where patients were beguiled into the belief that they could be benefited (even though it be at $10) to start with, by advertising itinerants, printed circulars, etc., using the United States mail for these deceptions. Various patent remedies advertised to quiet certain "nervous conditions," to restore "lost vitality," etc., were scored. The attention of the Attorney-General, Postmaster-General and Congress should be called to this matter and have such material excluded by the postal authorities. The Patent Office came in for its share of censure, wherein it issues the right to any person or to a firm to manufacture and sell medicines so powerful that they work death to an innocent citizen. Accompanying the paper were various exhibits of advertisements for the members of the Section to read and act upon—not to be reproduced in print, however.

The paper was discussed by Drs. Ross, Stallard, Ruggles, Davisson and Price, and upon motion of Dr. Ross as was suggested by the author, a committee of three was appointed by the chair to try and agree upon some method of procedure of investigating the composition of various proprietary medicines that are advertised in medical journals and elsewhere, and to do what else was deemed best in the judgment of the committee, even to bringing the matter before Congress. Dr. Thomas Ross, Dr. J. H. Stallard, and Dr. Liston H. Montgomery were named as the committee. The latter gentleman being appointed instead of Dr. W. F. Wiard, who was unable to serve.

It may be well to state that a committee for a similar purpose was appointed at the annual meeting of the American Pharmaceutical Association last year to report at their annual meeting to be held during the first week of September, 1894, at Asheville, N. C.

The next paper,

CLEANLINESS THE CHIEF ANTISEPTIC,

was read by the acting Secretary, on account of the absence of the author, DR. C. F. ULRICH, of Wheeling, W. Va. Dr. Ulrich thinks preventing bacilli from entering the human body when it can be done, far preferable than bacteriologic investigations afterward; and that the former is more apt to be accomplished by thorough and perfect cleanliness than by the use of so-called antiseptics.

VACCINATION AND RE-VACCINATION

is the title of a carefully prepared essay by DR. EZRA M. HUNT, Secretary of the State Board of Health of New Jersey. This paper had been forwarded by the author to the Section, and as he was unavoidably absent on account of ill health it was read by the chairman. Never was so much loose vaccination done as now. We sound not too soon this note of warning, for we believe that if the present loose methods are permitted to continue, vaccination will become less and less a preventive of smallpox and so its enormous value will be greatly impaired. There must be more thorough work and more exact discipline as to this whole matter of vaccination. Among the tentative answers as indicating lines of direction for inquiry, Dr. Hunt said: *a*, there should be a National vaccine and distributing establishment for bovine vaccine at Washington; *b*, arm to arm vaccination should not be wholly abandoned. In our larger cities, at least, physicians should arrange to have at hand certified humanized lymph of which the sources are local and fully known; *c*, vaccination direct from a charged ivory point used for scratching, or from a needle used but for one case, should be relied on; *d*, re-vaccination should be advised for all who have not been vaccinated within ten years, and oftener where there has been special exposure, or there is any doubt as to marks, or time of first vaccination; *e*, children should not be admitted to public schools until vaccinated. Provision should be made to encourage general vaccination of infants and youth; *f*, a vaccination card or certificate should be given, stating time and place of vaccination or of re-vaccination, whether there was subsequent examination and at how many points the lymph had taken; *g*, while time of quarantine must vary somewhat according to circumstances, persons who have been fully exposed if not quarantined at once should be under quarantine or watch from the ninth to the fifteenth day after exposure.

The discussion was participated in by Drs. Orme, Ruggles, Herrick, Ross, Stone, Chipman, Price, Stoner and Montgomery.

The last paper was read by title as the author was obliged to be absent during a portion of the afternoon session: "Tuberculosis and its Prevention," by DR. WINSLOW ANDERSON, of the University of California, which was upon motion referred for publication in the JOURNAL.

CHAIRMAN STONER announced that this would close the reading of papers. He closed his official duties by eloquently thanking the members for their attendance at the meetings, which offers good argument for the continuation of this Section.

DRS. RUGGLES and ORME were appointed to escort the chairman-elect to the chair. Upon being inducted into office, DR. MONTGOMERY said in substance:

It is a well-known fact or maxim that accidents sometimes occur to the best regulated families. When I left my Chicago home two weeks ago, the thought was remote from my mind of being selected either as Secretary *pro tem.* of the Section of State Medicine for this meeting, or chosen chairman of the Section for the ensuing year. Since you have seen fit to confer upon me these double honors, which I am cognizant rightfully belong to others as well, it is but just for me to express to you my heartfelt thanks for this mark of appreciation on your part.

As you are all aware, the officers of the Section have endeavored to secure the names and addresses of all who have attended the Section at this meeting. I trust, therefore, that you will consider yourselves individually or collectively as being personally invited to prepare papers and essays for the annual meeting to be held next year. Again renewing my thanks for the honor of selecting me as chairman of the Section for the coming year, and if by so doing the Section of State Medicine will prove as interesting then as the present meeting has been under the able guidance of my predecessor, your selection of officers for 1895 will not have been a mistake.

A vote of thanks was upon motion of Dr. H. S. ORME tendered to DR. STONER for his able and dignified parliamentary rulings throughout the sessions of the Section. No further business was presented. The chairman at 5:40 P.M. then declared the Section adjourned, *sine die*.

LISTON H. MONTGOMERY,
Acting Secretary.

ORIGINAL ARTICLES

MEDICO-LEGAL SUPERSTITIONS CONCERNING CRIMINAL INEBRIATES.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

BY T. D. CROTHERS, M.D.
SUPERINTENDENT WALNUT LODGE HOSPITAL, HARTFORD, CONN.

During the past few months I have examined the facts and circumstances of six different homicides. In all these cases the prisoners were convicted and sentenced to suffer the extreme penalty of the law. In every instance the prisoner was an inebriate, and had been using spirits to excess before and at the time of committing the crime.

The defense in all these cases was insanity, intoxication and incapacity to reason of the nature and consequences of the act, with inability of control. The prosecution denied this, and sought to prove a state of sanity and mental capacity that in no way lessened responsibility. The jury in each instance considered this established and returned a verdict of guilty.

In four cases the judge expressed great approbation of the courage of the jury in their verdicts, and sentenced the prisoner in terms of severity and harshness.

In one instance the judge expressed great confidence in the wisdom of the law and predicted less crime when the punishment was clear and prompt.

In another case the judge urged the prisoner to throw off all disguise and be honest with himself before he died.

In one case the judge gave no opinion, in another he became lachrymose and fell into a religious strain.

I shall refrain from the use of names and dates, because these cases are not unusual or in any way different from many others occurring daily in all the large cities of the country.

The question I propose to examine is: For what reasons and upon what evidence can medical men in the court room swear to the sanity and capacity to reason rationally of men who are under the influence of spirits? The superstitions of the law and the delusions of judges and jurors on matters on which they can not possibly form sound judgment, because they are not acquainted with the facts, are familiar to all.

Why should medical men accept these delusions and act upon them as if they were absolute facts? As an illustration, take any case where the question of insanity comes into the court room, and a certain number of physicians will give testimony in accord with legal conceptions of what should constitute insanity. Medical views of authorities are twisted and turned to suit some legal diction, or ignored altogether. Scientific facts and conclusions are strained down to the level of the law, and previous decisions of the courts, as if they were absolute authority.

Many physicians exhibit scientific demoralization in the court room, and are unable to state clearly or defend the authoritative teachings of those who are in a position to know. Hence the sneers at expert testimony and its supposed unreliability.

The physician should go into the court room as a scientific man, to give facts and opinions irrespective of all conclusions or possible antagonisms to prevailing views.

In Case 1 of these homicides mentioned, the physicians for the prosecution each acknowledged that they knew the law declared that drunkenness was no excuse for crime. Each one seemed to give very careful testimony that should not conflict with this dictum. In this case the prisoner came from a degenerate family, in which insanity, inebriety, pauperism and idiocy had appeared in many members. He had been an inebriate tramp from early life, drinking to excess at all times and places, and had suffered from delirium tremens, sunstroke and typhoid fever. He had been a gambler, barkeeper and hotel runner, and he had lived very irregularly all his lifetime.

He was confined in jail some months suspected of burglary, but was finally released for want of definite evidence. He drank daily to excess from this time, and after an altercation over some trivial matter he threatened to kill a man; the next day he renewed the threats while intoxicated; the third day he met the man and killed him in a personal encounter. He had drank to excess all day, and while not stupid was clearly intoxicated. These facts were not dis-

puted. On the trial three physicians swore that he had full power of forming conceptions as to his acts and their consequences. That as he had driven a hack and had acted rationally on these days in his business he must have been able to reason on the nature and quality of his acts. Also he could not have been insane or unconscious of what he was doing. On cross-examination, alcohol was called a stimulant, and never a paralyzant except in excessive doses, also persons who used spirits were not in any way affected mentally unless intoxicated.

In Case 2 the prisoner killed his brother under unknown circumstances. He affirmed no recollection of the act. He was a periodical inebriate and had been drinking for two weeks every night to excess. He had begged money on the night of the crime and when refused declared he would have money if he had to kill some one. The next morning he had money and his brother was found murdered. He had drank at intervals from the time he was in the army in 1864, gradually becoming worse. His father was an inebriate and his mother died insane, and he had lived an irregular life as a pedler. He had been in jail for intoxication and was weak-minded when not drinking.

On the trial two physicians testified that they had examined him and found him of sound mind, and that he was fully capable of knowing what he did even when under the influence of spirits. They also swore that unless stupid or delirious he would be sane and conscious, and act with premeditation. They also believed that alcohol did not destroy normal consciousness, without giving evidence in conduct and appearance.

Case 3 was a man who had previously occupied a prominent position, and was considered to have more than average ability. He came from a consumptive and neurotic family. At 30 he was injured in a railroad accident and his wife was killed. From this time he drank and lived with low society, was a low barkeeper, pawnbroker, and drank steadily, seldom becoming stupid or delirious.

Finally he killed a low woman companion and ran away. The evidence showed his condition before and after the act to be in no way different from that at other times, although he was evidently under the influence of spirits. Two expert physicians swore to his measure of sanity and his ability to have restrained himself, also that he gave no evidence of ever having been insane and unable to reason on the nature of his acts.

Case 4 was a low Italian laborer without any history, except that of spending all his week's earnings drinking Saturday night and Sunday. He never seemed stupid or hilarious, but was rather thoughtful and sedate when drinking. He killed the barkeeper who refused to sell him more spirits. About the same testimony was brought on by the medical witnesses for the prosecution. The prisoner was considered sound and in possession of all his faculties at the time of the homicide.

Case 5 was a wife murder by an inebriate who was possessed when under the influence of spirits, of delusions of his wife's infidelity. When sober he was silent and seemed not to consider this, but after drinking he became morbidly suspicious of every act and word. In all other relations he was unchanged and appeared rational. These drink periods would culminate in attacks of acute gastritis and long free intervals of sobriety. On the trial the medical testimony denied all possibility of his being unable to realize the nature of his acts, but assumed that his natural jealous disposition was increased by spirits, and he could at any time have checked it.

Case 6 was a farmer who had drank cider brandy for many years, and in a rage at his brother-in-law, who tried to arrange for the removal of the spirits, shot him. There was no history other than that of excessive drinking for many years and gradual decline of health. He appeared and acted rational to all general observation. The medical testimony on this trial was very emphatic in denying the irresponsibility of the prisoner, and assuming that he was fully competent to understand his acts and know right from wrong. Alcohol was declared to be non-poisonous taken every day.

Such is an outline of the medical testimony on which conviction was secured in each case. Three of the cases were defended by elaborate medical evidence, and the impression created was that it was simply paid testimony.

In two cases medical witnesses offered voluntary testimony in rebuttal to the evidence of the prosecution concerning the sanity of the prisoner. In one case no medical evidence in defense was presented. I assume that the evidence offered to show the mental integrity and responsibility of the prisoner by physicians in these cases is a fair example and is a common experience in all criminal courts of the country. I propose to show that such evidence is theoretical and entirely unverifiable.

The supposition that insanity must always be marked with delirium, idiocy or dementia, and that no insanity is present unless such symptoms are clear, is not true in reality. Many of the most dangerous lunatics and thoroughly insane men exhibit a degree of mental acuteness and vigor not seen among the sane.

The old theories of right and wrong test, and of capacity to do otherwise, and free will to judge and decide of the act, are misleading and unsupported by facts. The same facts obtain in the study of inebriates; intoxication marked by delirium and stupor, are not the only conditions of irresponsibility. Facts within the experience of every one point out states of trances, of delusions, of morbid impulses and imperative ideas, which are veritable insanities, that give no evidence of their presence except in certain lines of conduct, that are not understood.

The assumption of capacity with knowledge and control and the fact that the person was not stupidly and wildly intoxicated is wrong and unverifiable.

To assume sanity in any person who persists in using spirits to excess, a habit destructive to all his personal and pecuniary interests is contrary to facts, and is simply the tenacity of an old delusion of the value of alcohol. The person who uses spirits to excess at intervals or continuously must have a defective mentality, either before spirits were used, and certainly after its use he is more degenerate. Statistics are clear on this point, that in at least one-third of all cases of inebriates the use of alcohol is a symptom and not a cause. A symptom of some brain defect, either congenital or acquired, or some latent tendency to exhaustion which is exploded and made to take on acute conditions which are masked by spirits.

The theory that alcohol is purely a stimulant, and always the sole cause in inebriety is untrue. The theory that excess in the use of spirits is only temporary derangement, of the same class as indigestions, exhaustions from muscular overwork, is also untrue and dangerously misleading.

Recent experiments on healthy men show that in varying doses of from 1 to 2 ounces of spirits after the first hour the temperature and pulse fall, the senses are diminished, the muscular strength is lessened, the memory is more imperfect and all the brain functions are slower and below the normal in acuteness. These are facts which can be measured and seen, and are not observations or theories, and they show that alcohol is a depressant and paralyzant in all cases. That the temporary increase of the heart's action, and circulation of the blood is deceptive and is followed by reaction and depression. The weary horse whipped to greater efforts is not given new strength, but is made weaker and more incapacitated. This depressant action of spirits in the second state is a fact that can be proved in every instance beyond all question by instruments of precision.

It will be obviously impossible to continuously depress all the vital functions of the mental and physical organism and retain health. The man who is intoxicated, stupid or delirious, is in the extreme stage of this depression. The man who at intervals for years becomes intoxicated, or who is obviously under the influence of spirits, can not be in possession, or have full control of his faculties.

In any of these cases of homicide, the history of continuous and excessive use of spirits, or excess at intervals, is almost absolute testimony of incapacity. No appearance of sane acts and reasoning are proof of sanity. Some of the most insane men both think and act rationally on matters outside of their delusions.

The inebriate in most cases acts automatically, following lines of previous thought and action. When forced into new fields of activity his weakness appears. In Case 6 no one suspected the real condition of his brain. Although his general health had greatly declined, yet when his brother sought to remove the spirits which were injuring him, he became delirious and killed him. His insanity had been the growth of years and was not the transient impulse of anger.

In Case 5 the presence of delusions had been recognized when suffering from the drink paroxysm. This, with the fact of having drank for years, was clear proof of incapacity to reason or to control his acts.

The drinking history of Case 4, spending his wages weekly in spirit excesses was also clear evidence of mental degeneration and unsoundness.

Case 3 was clearly one of marked disease of the brain in which the use of alcohol was not only a symptom but an additional cause of irresponsibility.

Case 2 was evidently a trance state with a history of neurotic inheritance, which in itself would have caused doubts of capacity to reason rationally.

In Case 1 a similar bad inheritance and injury from sunstroke pointed to brain incapacity.

Irrespective of all this history, the fact of using alcohol to excess is evidence of a degree of brain failure that should be unquestioned. From clinical facts and teachings I affirm with confidence that no one who uses spirits to excess for any length of time has a normal sound brain. That it is rational to assume insanity in any case where the history indicates alcoholic excess for long periods before the commission of the crime. No appearances or sane acts should prove the sanity of a man who has been for years destroying himself with alcohol.

The question of how far he was unconscious of his acts, or unable to control himself, or comprehend right from wrong, opens up another field of inquiry, which can not be determined clearly, but the general question of his mental impairment should be considered established.

A further study of this question will show that the use of alcohol always paralyzes the higher functions of the brain, and is followed by heart feebleness and depression. The senses are disturbed and are less and less capable of transmitting accurate impressions. The higher brain is less able to comprehend the nature of acts and their relation to surroundings. Delusions of strength are common, and events and their consequences, and motives and purposes are exaggerated, misconceived, misinterpreted, and the brain is unable to correct them.

All inebriates have defective brain and nerve power, and every toxic state from alcohol more or less permanently impresses and increases brain degeneration. All such persons have lowered pride of character, less ambition, less fear of consequences. The brain is anesthetized and crippled and unable to realize the nature of acts. Crime committed by inebriates must be under abnormal states. The more prominent the inebriety the more incompetent the brain is to act rationally and soundly.

The effort to find a point or dividing line where sanity and insanity join, or where the person could or could not have controlled his acts or realized their nature, is an impossibility which every advance of science demonstrates. Capital crime by inebriates is always the result of some circumstances or some sudden strains on an enfeebled brain; some morbid delusions or illusions that suddenly dominate the mind, or epileptic explosions masked and concealed in some way. Alcoholic somnambulism or trance conditions may be present in many cases. The mind during these periods is always dulled and largely unconscious of all external or internal considerations, and is subject to strange unknown impulses that may vary suddenly. There are present either states of insanity of inebriety, or the inebriety of insanity or both. Such cases are masked to all superficial observation, and are not subject to the ordinary influences and motives which control the normal mind.

The teachings of modern psychology fail to confirm the commonly accepted theory that states of delirium and dementia from alcohol are harmless, and that recovery from these conditions is complete. Sanity and clear healthy brain consciousness do not alternate with the delirium and stupor of intoxication. The moderate and continuous drinker suffers in the same way only in a lesser degree. The person who from continuous use of spirits develops an attack of acute mania and insanity, with all the classical symptoms, and after a few weeks restraint in an insane asylum is discharged as cured and sane, is a good illustration of the theoretic delusion that all injuries from alcohol are transient. When such persons relapse and commit capital crime the ques-

tion of their former treatment in an asylum is only admitted in court as a general fact bearing on their possible mental state. This is an error and opposed by all teachings of facts. The subsidence of the acute symptoms due to alcoholic excess and the removal of spirits is not the cure or restoration of the disordered cell and nerve tissues.

The apparent sanity of the epileptic in his free intervals is no evidence that the attacks will not return, or that the man has recovered, or that he is fully sane and capable of exercising sound judgment. The periodical and continuous drinker is always unsound and unreliable; like the epileptic he can not be trusted to act normally under all circumstances. Crime by such persons is the natural consequence of a brain that is degenerating. It is unreasonable and unnatural to expect such persons to act rationally as other men who do not, or have not, suffered in this way. The court-room superstitions that overlook this fact, and attempt to measure the degree of consciousness of right and wrong, and the power of discrimination of facts and their relation to each other, is deplorable in this age of scientific inquiry.

The physician who is called to give evidence as to probable states of sanity in the case of an inebriate criminal, where the history of alcoholic excess is associated with the crime, is lending himself to encourage superstition that should rapidly disappear. The effort to formulate certain assumed facts into a position to support a theory that is unverifiable always ends in confusion and injustice. In three of these six cases the testimony of the physicians who swore to the sanity of the prisoner was a sad mixture of confused, disjointed statements, which were open to so many exceptions as to be literally worthless. In all these cases the inquiry should have turned to the drink history of the criminal, its heredity and growth up to the commission of the crime. From these facts some idea of the capacity or incapacity of the mind to act rationally could be found. The exact condition of the criminal at the time the crime was committed, separated from events before and after, gives no clear conception of the man or act.

It is absolutely farcical for a medical man on the witness stand to be drawn into an explanation of metaphysical theories of inebriety. He should refuse to give an opinion on presumptuous cases, which involve half fact, with moral, legal and sentimental theories, that are false. He should refuse to attempt any explanation of motives or capacity to will or otherwise in a person who was under the influence of alcohol at the time of the commission of the act. He should testify clearly to the incompetency of any one drinking spirits to will or to do, at the time, and insist on only giving general conclusions from established facts. The questions should be: 1, was the prisoner an inebriate? Did he drink spirits before, at the time and after the commission of the act? If these questions are answered in the affirmative and on facts, the mental capacity may be doubted, reasonably and naturally; 2, what was the nature of the act, and the conditions under which it was perpetrated? Do they strengthen or disprove the inference of mental unsoundness; 3, what conclusions do the facts point to? If the preponderance of evidence indicates a defective consciousness of conduct and the relation and consequences of acts, the probability of disease of the brain in its broadest sense is almost a certainty.

No scientific study will sustain theories of the degrees of health and disease, or boundary lines of responsibility and irresponsibility. If the prisoner has poisoned himself with alcohol before and at the time of the act, he can not be considered as sound, sane and in possession of normal faculties. Evidently there is here a very wide field for new and exact studies, which will revolutionize and clear up much of the superstition and odium which has grown up about expert medical testimony.

A summary of the facts may be grouped as follows:

The questions of inebriety are becoming more prominent in the legal treatment of crime, and yet to a large extent the theories of centuries ago prevail, and form the working basis from which to judge such cases.

Physicians as expert witnesses make the fatal mistake of attempting to harmonize facts and legal theories of interpretations, with some vague notions of insanity and inebriety.

It is a legal fiction and delusion to suppose that crime committed while under the influence of alcohol is the voluntary act of a conscious brain.

It is a delusion to interpret acts that indicate premeditation by inebriates as evidence of sanity and consciousness of their import.

It is a delusion to consider inebriety a normal condition, and that the victim has full power to poison himself for years, even up to and over into the region of full insanity, but should he commit crime punish him as sane and accountable.

It is a delusion to consider that all inebriates have the power to drink and abstain at will; that intoxication implies a voluntary state *which is under control* of the mind.

It is a *fact* sustained by unmistakable evidence that an inebriate who commits crime is not of a sound mind. That no criminal act by persons who are under the influence of spirits at the time of the commission of the act comes from a sane, healthy brain.

The delusions of the law insist on fixing boundaries of responsibility, and urge medical men to go into this penumbra region of sanity and insanity, and draw lines between vice and disease, and indicate where human justice should punish and where excuse.

The medical man on the witness stand and at the bedside must go beyond the theories of yesterday or the facts on which yesterday's views were based. A clearer, wider range of facts point to broader conclusions to-day and still clearer facts to-morrow.

DISCUSSION.

THE CHAIRMAN—The paper of Dr. Crothers is now before the Section. I for one feel that I owe, and I think the Section generally owes Dr. Crothers a debt of gratitude for the earnestness with which he is presenting to the people the results of this condition of the nervous system and I will be very glad to hear from any person present, whether in the Section or not.

DR. GIVENS, Idaho—Mr. Chairman, I feel and completely agree with the Doctor in all of his propositions, but as he read his paper I thought "that is true, but what are you going to do about it?" Now to the man who has daily experience with the alcoholic insane and with all forms of the disease, there is no question in his mind about the truth of the proposition that the Doctor has laid down. But how are we to get the judges and the courts to believe as the Doctor does? Nay, how are we to get the medical profession to

believe it either? How are we to get them into the attitude of mind the Doctor is in? I don't think we can argue the courts into it; we can not argue the juries into it. I have no hope we can argue the medical profession into it. The only way I know that a man can be convinced of the truth that is in this paper, is to put him among the insane; his daily experience and contact with the insane will convince him of the truth of these things. How are we to do that? By the care of the insane. The tendency has been to take the insane and lock them up in asylums away from the world. We have a few specialists in charge of the insane asylums. We have a few young men who go there for varying periods of from two to ten or fifteen years, and they acquire accurate information in regard to all the facts that are known in regard to insanity, but they are very few, and all the clinical resources and advantages that would accrue to the medical practitioner by contact with the asylums are lost by the present arrangement. I have thought for many years that it would be better if we could have our insane treated more nearly as the sick are treated in hospitals, and that when the young men graduate they should be expected to be received as internes, to treat insane men for a period of two or three years. That kind of a system would very soon cause these facts to permeate the medical profession. That is a practical point that I hope will be reached some time in some kind of a practical way. There is no question but the law, and the conception of the lawyers is wrong in regard to the matter, but it seems to me a herculean task to convince them of their delusion, and impress them with the real facts, as the Doctor has given them to us to-day. Society itself, civilization itself, is halting over this question—is stumbling over it. A great deal of wrong is done, but how are we going to right it?

Dr. Heisholt—Mr. Chairman, I have been very much impressed with the paper that has been read and entertain the same views on the subject. Bnt perhaps it would be fitting to make some few remarks as to what influence these views might have upon the exercise of justice, as justice is being exercised. Every one of us knows how it is being exercised every day; the principle seems to be rather let many guilty men escape punishment than to let one innocent man be punished. However, I doubt whether the result of having these views believed in by medical men at large, by judges and by juries—I doubt whether the result would be as good as perhaps those who entertain these views think they would be. If courts are managed as they are to-day, or law is exercised as it is to-day, and the methods in court go on as they do to-day, with the hypothetical question that is brought up as the basis for medical witnesses to judge by, there would be more loopholes for guilty men to escape through. However, I must say I believe in alcohol having its effect—this paralyzing effect—often where no marked delusions or other symptoms of insanity are present.

Another point is, the way such people are taken care of after they have committed a crime apparently under the influence of spirits or alcohol. They are sent to asylums and they are there kept for a certain length of time. Then as I know in a number of cases there is no law that enables the superintendent of such an asylum to keep these people; he must let them go again, and as it is well known the inebriate has no control over himself for any length of time—he falls into the same old habit and his crime is generally repeated. Now the question with me then is, if such views should be believed in throughout the land, not only the medical men should hold these views but the judges and juries should know of them and believe in them, that the laws first of all must be changed.

Dr. Wright, California—Mr. Chairman, I do not rise to discuss the paper because I am heartily in accord with the statement made. I only rise to say that sometimes it will take a good deal of courage—a good deal of moral and intellectual courage, if you please—for a physician to go upon the witness stand and present views that have been presented here by the doctor in this paper, knowing the popular feeling, and that the court, that is to say the judge and jury and the attorneys, will all laugh at you for making what they will call, a fool of yourself. This matter has been brought to me in a forcible way. I was asked to state upon the witness stand my opinion—where an individual for a life long had most grossly abused himself by the use of alcoholic substances, and after he had practiced this habit for some thirty years, without any apparent sufficient provocation, and when not directly under the influence of liquor he killed his daughter; and his attorneys while admitting that he was guilty of the murder of the daughter yet hoped to secure for him a lighter sentence than that which would attend a conviction along the line of the prosecution, namely, that he was guilty of murder in the first degree; I went upon the stand and said that this man's excessive use of alcoholic liquor had put him in such a condition that he was not as fully alive to the enormity of his crime as if he had lived a sober life. Well, some of the gray-headed veterans of our profession held a diametrically opposite view, and said that such a view as mine was wrong, and that the man knew what he was doing when he committed the crime and that therefore he was responsible.

Dr. Crothers—Mr. Chairman, I should like to hear your views in regard to that matter. You have had a long experience which must have brought you into possession of a great many facts for or against the ideas here presented. I should like to hear what you have to say and I could then add a word in closing.

The Chairman—I thought when I asked you to discuss the question, that I put myself on record in a few words as fully indorsing the sentiments of the paper, and when I expressed my thanks to Dr. Crothers for the earnestness with which he has to my knowledge for years been endeavoring to bring the effects of alcohol properly before the profession, because as Dr. Crothers says, even to-day some of the gray-haired veterans that Dr. Wright speaks of, speak of alcohol as a stimulant simply, whereas to-day I presume every person in this Section knows that alcohol by a most careful physiologic investigation has been declared to be not a stimulant at all, but an anesthetic, a paralyzing agent; and if a paralyzing agent, and anesthetic, then it certainly must, even if the quantity used would not be regarded as excessive, if it has a paralyzing if it has anesthetic properties, it must to a certain extent diminish the powers of reason and judgment. I agree with the Doctor when he refers to the bit of moral courage necessary to express views that are a little in advance of the people, but it is none the less the duty of the doctor to do it. And the people are being enlightened upon these questions. In my own State, the State of Illinois, we have endeavored to correct the abuse of this medical expert testimony, and I propose tomorrow to present to this Section the resolutions of the bill that has been prepared to be introduced in the Legislature governing it. I am sorry to say we have too many doctors who are willing to go on the stand and declare testimony upon questions about which they know nothing, or questions in which they have not kept pace with the progress of scientific investigation. Certain it is that alcohol is a paralyzing agent, and if it does produce anesthetic effects upon the brain, it certainly must diminish, to a greater or less extent, as I said a moment ago, the power of reason and judgment. I do not care to detain the Society any longer, but I must again express my entire approbation of the proposition the Doctor has made about the necessity

of our being bold in our declaration, let the consequences be what they may. The people who know nothing about it may make such declaration as they please, but it is the doctrine that fifty years hence will be the universal doctrine among scientific people.

DR. CROTHERS—Mr. Chairman, I will just say one word with great thanks to the Chairman for his complimentary words to me, and his thorough recognition of the principles of my paper.

We are on the verge of a great reformation. In the courts all over the United States, we are all making the eternal blunder of sentencing diseased men, the same as they sentence the half insane and the witches and the possessed of the devil—we are doing the same thing in this country with the crazy inebriate. So the same blunder is repeated and we go on. Now regarding a man as insane or incompetent does not take away responsibility at all. Some people fear a great deal that to say because he is an insane man you should let him go loose. Not at all; it only takes away the severity of the punishment. And I can only say that this is the view that is going to obtain in the coming century, and be put into practice; and the physician who adopts it as part of his life and his thought and in his practical application will first become the recognized man.

REPORT OF TWO CASES OF INTRACRANIAL TUMOR.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

BY ANNE BURNET, M.D.

WAUSAU, WIS.

The following cases of intracranial tumor occurred in patients in the Illinois Eastern Hospital for the Insane.

The clinical history and post-mortem findings are given, not because of any marked peculiarity, so much as because of the growing interest in the subject—an interest which can but be stimulated and widened by reports of the careful observation of such cases.

It is a matter of regret that an accurate diagnosis was not made before the patients reached the post-mortem table, and there is a sort of selfish vindication in the thought that those of wide experience and having at their command the most approved means and methods of diagnosis sometimes fail to arrive at correct conclusions.

As knowledge of the brain and its functions increases improvements in methods of diagnosis may be looked for, until a tumor may be as accurately located in the skull as in the abdominal cavity.

Case 1.—Mary C., American, about 35 years of age. No history accompanied the patient when she was admitted to the hospital, and very little that could be relied upon was obtainable from her. She had lived a life of licentiousness, and the commitment papers gave alcohol as the cause of her mental disease. She was only fairly nourished. The pupillary reflex was normal; the tendon reflex absent. She walked with difficulty, her lower extremities seeming to be paretic. Her mouth was very foul—the gums swollen, spongy and exuding pus—presenting a good illustration of too much mercury. There was a profuse purulent discharge from the vagina and the patient said she had specific disease. Sensation seemed quite good at first but was soon evidently deranged. The patient's mental condition was such, however, that her statements in this regard as indeed in the matter of subjective symptoms in general could not be wholly relied upon. There was a slight hesitation in her speech and her memory was slow. She had hallucinations of sight and hearing accompanied by delusions of grandeur. These mental defects were not pronounced at first, but it is quite possible that change of surroundings may have thrown them into the background for a time as is often the case. Later, however, these mental symptoms were very marked and she became quite irritable.

She appeared to be weak and unable to get about and seemed to suffer so much from pain in all parts of her body that she was sent to the infirmary and permitted to remain in bed or to sit up as she preferred. She complained of very intense headache, claiming that she could not sleep on account of pain in her head and other parts of her body. The head pains were the only ones definitely located. The others seemed general and were suggestive of multiple neuritis. In a short time she became quite helpless and very untidy. She failed rapidly. Her stomach refused food and she suffered from an obstinate diarrhea. A few days before she died she developed a persistently high temperature and rapid pulse accompanied by copious perspiration. She was in the hospital less than six weeks. Before death for several hours the muscles of the neck became markedly rigid. She was quite deaf and there appeared to be a failure of sight also. The autopsy was made five and one-half hours after death. The head was small and the skull unusually thick. The diplöe were nearly obliterated. Exostoses were found on the inner surface of the frontal bone and in the temporal fossa on the left side. The brain weighed forty-one ounces. The dura was somewhat adherent to the skull and was thickened. The pia was thick, tough and unusually vascular. At a point corresponding to the exostosis in the left temporal fossa, the pia was roughened and granular to the touch. This was over the third temporal convolution and a point of red softening was found in this area. Signs of recent inflammation and a spot of red softening three millimeters in diameter were found in the left frontal lobe. A large number of syphilomata were found in different parts of the brain as follows: A gummatous patch in the dura over the paracentral lobule on the left side; two tumors apparently developed from the pia over the occipital lobes causing corresponding depressions in those lobes; another at the top of the second frontal convolution extending into its substance at the expense of the gray matter; a large one at the upper border of the angular gyrus; one in the interparietal sulcus involving the gray matter on both sides of that fissure in the right hemisphere; one in the fissure of Rolando on the left side at about the middle of its extent; another at the tip of the cuneus in each hemisphere; one large and several small ones about the middle of the corpus callosum; one in first frontal sulcus on the right side anteriorly; one large one in the substance of the optic thalamus; several small ones buried in the surface of the cerebellum with others in the substance of its lobes; a large one in the pons showing as a projection in the floor of the fourth ventricle; a second in the pons extending to the crura.

These tumors varied in size from a small pea to a good-sized hazel-nut and in most instances seemed to exist at the expense of the gray matter—appearing to rest directly upon the white substance of the brain. The white matter was in all parts unusually tenacious.

Some of the growths found in the sulci were rolled out on passing the finger tips between the convolutions. No similar growths were found in the lungs, liver, heart nor kidneys—but the spleen seemed to be literally filled with them. The kidneys showed advanced fatty degeneration.

Considering the large number and wide distribution of these tumors it seems strange that there should have been so few marked symptoms. It is probable that the true physical condition was masked by her mental deterioration. The cerebral cortex was seriously pressed upon at several points, but there was nothing in the patient's condition until a few days before death to indicate such pressure. At no time after her admission did she have a convulsion. The persistent vomiting and reeling gait might have suggested cerebellar disease of some sort; and these symptoms together with the severe headache complained of did suggest such a diagnosis. The patient's history, too, left little occasion to question the probable cause of the disease, although there had been no improvement under treatment.

The patient had evidently received a thorough course of *mercury* at least before she was sent to the hospital, judging from the condition of her mouth. The irritable condition of the stomach and bowels made all internal medication as well as the matter of nutrition very difficult.

It is stated in the books that while gumma occurs more frequently than any other form of intracranial tumor (except perhaps tubercular) it very rarely occurs in the cerebellum. In this case several tumors were found in the cerebellum, although much the larger number were in the cerebrum.

Case 2.—Mrs. O., Swede, 67 years of age, widow, mother of several children. No history pointing to organic brain dis-

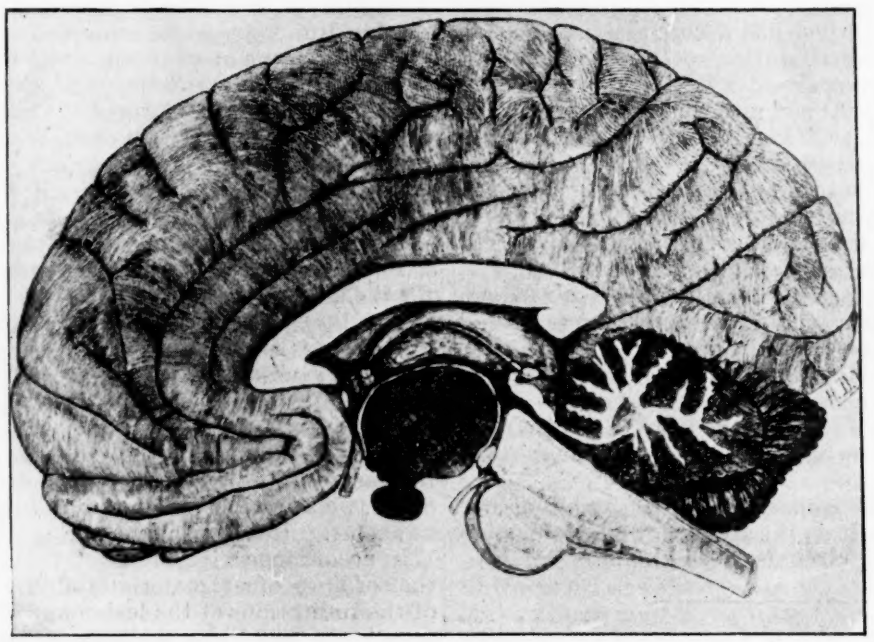
ease. The case appeared to be one of senile dementia. She had been well cared for, but a tendency to wander and very untidy habits made it necessary for her friends to place her in the hospital. On examination she was very well nourished; the reflexes were found to be fairly good, and no disturbance of sensation was noted. Her sight and hearing seemed fair for her time of life. Her weakened mental condition made accurate information impossible. Her gait was her most noticeable defect. She walked very unsteadily with a rolling movement such as a sailor adopts in rough weather at sea. She was weak-minded, childish and affectionate — usually very cheerful, humming softly as she walked about or sat in the ward. She talked very little but seemed to think she expressed her sentiments in pleasant little sounds like a happy child.

One morning not long after her admission Mrs. O. was reported as having fainted at the breakfast table. On going to the ward she was found in bed where her attendant had placed her, looking very pale and as though she might be extremely nauseated. Her pulse was weak and slow, but steady, and she was inclined to sleep. She remained quietly in bed the greater part of that day and next morning was up and about as usual.

These attacks recurred a number of times, the patient seeming to be more helpless after each one. Her gait became more unsteady until she could not walk without assistance. Her mental faculties and powers of perception also failed. It was observed that she never seemed to notice a person unless directly in front of her, then when her attention was called she would smile pleasantly. This suggested the idea that the field of vision was limited but a satisfactory test was not made.

On account of her helpless condition and to prevent her from being injured by falling or by other patients, she was taken to the infirmary and put to bed. For a time she was very noisy and hard to care for. She was extremely untidy and required constant attention. The right leg soon began to contract at the knee and her general helplessness increased. When attempting to sit up in bed the muscles of the back seemed incapable of supporting the body, the tendency being for the body always to fall toward the left. She slept most of the time day and night. It was often necessary to arouse her to give her nourishment, etc. These changes were developed during about ten months. Her deafness increased until it was apparently complete and all other faculties seemed to fail in proportion. A short time before death she developed a temperature of 105 degrees on which baths and antipyretics failed to make any impression. At this time she began to keep her eyes closed continually, even when she took her food and medicine, which she did very well to the last. Her mental condition was such that it was not possible to discover the reason for keeping her eyes thus closed, but it was thought possibly to be due to loss of sight and post-mortem findings confirmed that impression.

She died ten and one-half months after admission. The post-mortem was made thirteen hours after death. The body was well nourished. There was nothing unusual in the shape nor dimensions of the skull. The brain weighed forty-three ounces, and there was between five and six ounces of cerebro-spinal fluid. On the internal table of the calvarium in the frontal region were some fungosities. The caliber of the internal carotids at the point of entrance into the skull was greatly enlarged and the arteries at the base of the brain were also enlarged and atheromatous. The dura was very hyperemic and the walls of the longitudinal sinus were thickened. A bony nodule as large as a bean was found in the dura at a point corresponding to the upper end of the fissure of Rolando. On raising the frontal lobe to begin the removal of the brain a large tumor was discovered connected with and seeming to include the pituitary body—resting below on the sella turcica and pressing upward spreading apart all the basilar structures, carrying before it the infundibulum, the walls of which seemed to form a capsule for the growth. The tumor pressed against the anterior commissure anteriorly and greatly widened the optic commissure, against the pons and crura cerebri posteriorly and the anterior portion of the caudate nuclei laterally. On removing the growth (which was nearly spherical and about twenty-eight millimeters in diameter) and its false capsule, large openings into the lateral ventricles were exposed. The third ventricle was greatly enlarged and mostly occupied by the neoplasm. The brain tissue in contact with the tumor, *i. e.*, the anterior half of the third temporal convolution, anterior portion of the caudate nuclei, the optic thalami and crura cerebri were softened from pressure necrosis. The island of Reil was apparently normal. The neoplasm was dark in color and its surface was irregular, almost bilateral. It was freely supplied with blood vessels by branches from the internal carotids.



The pia in all parts was intensely congested, especially at the bottom of the sulci and fissures. The line of demarcation between the white and gray matter was not clear in the portions of the brain near the tumor. The vessels in the floor of the lateral ventricles were enlarged; the choroid plexus was apparently normal. Nothing unusual was noted in the fourth ventricle, and the cerebellum was apparently all right. On section the tumor was grayish in its interior and rather soft. By an oversight there was no microscopic examination made.

Dr. Valin made a drawing of the tumor *in situ* from which the accompanying photograph was taken. It is quite correct except that the pituitary body was not so distinctly separated from the neoplasm as the photograph would indicate.

In another case presenting symptoms similar to

the one described, it was thought that the pituitary body might perhaps be abnormal. This patient died several months after the first, and on post-mortem examination the pituitary body was found to be noticeably enlarged and unusually firm. It could not be said to resemble the first, however.

There was a point of interest in this latter case which you will pardon my mentioning. Along the entire margin of the fold of pia which dipped down into the fissure of Rolando, on the left side, there was a succession of sago-like bodies of various sizes. This patient had several convulsions such as are not unusual in cases of paretic dementia, each attack leaving her more paretic until she was entirely helpless and bed-ridden.

I have found very little literature on tumors of the pituitary body. Gowers, in his latest edition, dismisses the subject in a short paragraph, while others merely mention the fact that tumors of that gland sometimes occur.

The tumor in the case described must have been of slow growth. No symptoms diagnostic of a new growth were noticeable until after the patient became bed-ridden. She never had a convulsion unless the attacks resembling a fainting spell could be so considered. Gowers speaks of a brief loss of consciousness resembling *petit mal* as occurring in some cases, and it is possible such may have been the nature of the attacks this patient had.

Headache and head pains are the most common symptoms of brain tumor, yet this patient never complained of either and never manifested any sign of suffering. She had attacks of vertigo and occasionally of vomiting, but her digestion was good and so was her appetite during her entire illness.

What the character of the growth was, I am sorry not to be able to state definitely. There was no history and no evidence of specific disease and no tubercular tendency. The tumor had not the appearance of a cancerous growth and there was no such growth elsewhere in the body.

Judging from its consistency, color and abundant blood supply and from the frequency of glioma, may it not have been a circumscribed glioma?

ON THE NATURE OF LOCOMOTOR ATAXIA.

Read in the Section on Neurology and Medical Jurisprudence at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

BY L. HARRISON METTLER, A.M., M.D.

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The intelligent treatment of a disease can only follow a thorough comprehension of its true nature. The management of locomotor ataxia has undergone many modifications until now it is beginning to be recognized that the very best results are obtained from a general constitutional treatment. Cauterizations, stretchings, and suspensions have all been tried and found wanting. Various specifics have been vaunted and quickly forgotten. Antisyphilitics continue still to benefit strictly syphilitic cases. At the present time, however, we rely chiefly on good food, change of scene, tonics, baths and properly regulated exercise. All this to me is very suggestive, and for the past few years I have been suspecting that the disease we call locomotor ataxia is but a manifestation of a general affection or cachexia. This cachexia is something more than a predisposing cause, and its cure means the cure of the nervous lesions and symptoms.

The etiology and pathology of locomotor ataxia, spastic paraplegia, ataxic paraplegia, amyotrophic lateral sclerosis, the disseminated, diffuse and even secondary scleroses are so similar while their differences are so insignificant that the grouping of them together, as some writers are doing, is entirely rational. When the same morbid process occurs in different parts of the brain, giving rise respectively to motor, sensory or special sense symptoms, we do not speak of them as different diseases. Neuralgia is the same disease in one nerve as it is in another, and the various special nerve palsies when dependent upon the same cause, are only distinguished by their differences of location. This is even more forcibly illustrated by considering together the three affections known as locomotor ataxia, hereditary ataxia and ataxic paraplegia, all of which bear a marvelously close relationship and are but different manifestations, as it were, of the same trouble. In regard to the lesion, Friedreich's disease stands as the connecting link between the other two. Its more limited extent in locomotor ataxia naturally defines more sharply the symptomatology of this disease; while in the more extensive form of the trouble, that known as ataxic paraplegia, the motor paralysis due to implication of the lateral tracts quite alters the ataxia dependent upon disease of the posterior columns. Every one knows that in hereditary ataxia there is more of an equality between the ataxia and paretic symptoms with a slight tendency, however, for the ataxia to predominate.

In all three diseases the congenital predisposition is more or less marked. It is probable that the hereditary influence is the same in all, but that sometimes, as in Friedreich's disease, it is so overwhelming as to institute a degeneration, or, perhaps more properly speaking, a prevention of development from the very beginning of embryonic life, while in the other two affections it remains milder or latent until awakened into activity by some special cause.

In accordance with the most recent physiology of the cord, we must materially alter our conceptions of the limitations of the lesion and the nature of the anesthesia that give rise to the ataxia of tabes dorsalis. The spinal tracts are far more complicated than we have hitherto been led to suppose. The posterior parts of the cord are not entirely sensory in function, nor are the anterior motor. Indeed, the most important centrifugal tract lies wholly behind a line drawn transversely through its center, while according to Gowers the chief centripetal fibers are to be found in front of this same line. Such able investigators as Lücke, Flechsig, and Bouchard have demonstrated the fact that in the posterior columns are systems of fibers endowed with most elaborate and complex functions. And as a realization almost of Reynolds' prophetic words, Charcot, Schultze and Strumpell have shown that the lesion of locomotor ataxia is not uniformly extended, but is most marked in particular sites and areas and that these same areas are affected with remarkable constancy and regularity. Westphal's discovery of the so-called pre-ataxic symptoms, most of which are to be attributed to the involvement of the reflex centers and functions of the cord, long ago intimated a wider extent and profounder state of disease than that of

a mere centripetal system of nerve fibers. This was still more forcibly shown by the various trophic symptoms, arthropathies, etc., which reveal a concomitant involvement of the vasomotor and trophic centers. The association of a peripheral degenerative neuritis added still further to a broader conception of the nature of the disease. The tendency in all forms of spinal degeneration is for the morbid process to extend to other tracts and areas than those in which it originated. This, as Gowers admits, "can not always be explained by contiguity." In advanced stages and in severe cases the extension almost invariably and ultimately involves the motor and trophic centers so as to cause a true paralysis with muscular atrophy. Paralysis of the external ocular muscles is not an uncommon feature of the disease in any of its stages. This paralysis may be transient or permanent, complete or incomplete, of the whole or part of the nerve. In his well-known paper on "Ophthalmoplegia Externa," Hutchinson declares that "there can be no doubt that ophthalmoplegia externa is sometimes a part of the general malady known as progressive locomotor ataxia."[1] Both Gowers and Buzzard also recognize that "external ophthalmoplegia" occasionally accompanies locomotor ataxia. Baedeker,[2] Fridenburg,[3] Peterson[4] and Seguin have reported confirmatory cases. As these ocular symptoms are sometimes the earliest to appear, it can not be said that they are always due to an extension of the morbid process in the cord.

Dr. Shaw,[5] of Brooklyn, has reported some cases with cerebral complications and cited others from literature, many of them exhibiting the typical symptoms of locomotor ataxia while at the same time denying syphilis, which inclined him to regard the disease as a diffuse lesion of the cerebro-spinal axis rather than of the posterior columns. Grasset's well-known view therefore seems not entirely without foundation, namely, that tabes instead of being a disease of the spinal cord solely, may prove to have a much more extensive lesion, involving, in fact, the entire cerebro-spinal system.

Many of the so-called complications appear with sufficient constancy and prominence to be regarded as symptoms. Of these paralytic dementia can not at times be differentiated as a complication or additional symptom. Jendrassik[6] has put upon record two cases of locomotor ataxia with typical symptoms, in which an examination of the cords and brains led him to believe in the cerebral origin of the disease. The autopsy revealed certain alterations in the cortex which resembled in character but not in location those usually found in the general paralysis of the insane. He regarded the sclerosis of the posterior columns as secondary to that of the cortex. One of my private cases, which I may report in full in the near future, is one of mild paralytic dementia which is beginning to show some of the typical symptoms of locomotor ataxia. As Gowers remarks, "dementia paralytica and tabes are so closely related that the name is given to the disease merely in accordance with the preponderance of the one or the other special set of symptoms."

The etiologic relationship of syphilis to locomotor ataxia is still a matter of dispute. Many of the arguments opposed to the view that the disease is dependent upon syphilis in the majority of cases are rapidly being overwhelmed by accumulating facts. Erb goes even so far as to say that "tabes dorsalis is probably a syphilitic disease whose outbreak is determined by certain accessory provocations." Strumpell[7] is almost as dogmatic in the same belief. He assumes that the degenerative changes of tabes which he insists are no longer regarded as limited exclusively to the posterior column, must be the result of a poisonous product of syphilitic origin. He maintains that mercury may modify the syphilitic lesions so as to render the tabetic trouble milder and therefore it should always be tried, but we can not expect it to affect the tabetic degenerations already in existence. In connection with this statement it is suggestive to recall that Charcot[8] declared that a long experience had convinced him of the inutility of antisyphilitic treatment for tabes.

Gowers calculates that in the consideration of all cases we are safe in attributing about two-thirds of them to syphilis. It is not intended by this that the degeneration of the nervous elements is strictly a syphilitic lesion, but rather as this author expressed it in 1881, that the "effect of constitutional syphilis may be to induce a neuropathic state in which certain degenerative diseases of the nervous system readily occur." In the light of all this it is difficult to understand how one of so large an experience as Benedikt,[9] of Vienna "maintains that the majority of patients afflicted with locomotor ataxia and progressive general paralysis have never been the subjects of syphilis." Tabes, I am convinced, is a frequent accompaniment of syphilis and may be ameliorated by treatment directed against the specific infection which is a secondary, not a primary treatment of the tabetic disease.

Other disease poisons seem to show a similar selective action as syphilis and probably operate in the same way. Pernicious anemia according to Lightheim[10] led in a number of cases observed by him to a rapid degeneration of the spinal cord, especially of the posterior columns. Fürstner records that centrifugal rotation produced such an abnormal condition of the blood as to induce a degeneration of the lateral columns and pyramidal tracts. Tizzoni noted the same results from extirpation of the supra-renal capsules and cases have been reported in which the posterior columns were degenerated in association with Addison's disease. Minnich found spinal changes in cases of chronic jaundice. It was long supposed that ergot caused locomotor ataxia in some special way, but posterior spinal sclerosis could not be obtained by Grünfeld[11] as a result of the administration of the drug experimentally. Brunton, therefore, suggested that the bad hygienic surroundings of the ergot-eating peasantry must have been the etiologic factor in the production of the disease.

Dr. Morton Prince[12] has carefully analyzed six cases of locomotor ataxia occurring in persons suffering from malaria. The relationship of the two affections is of such a character as to be highly suggestive of something more than a mere coincidence.

[1] Paper read before the Medico-Chirurgical Society in 1879.
[2] Centralblatt für Nervenheilkunde, etc. Coblenz, June, 1891.
[3] Brooklyn Medical Journal. Brooklyn, January, 1891.
[4] Journal of Nervous and Mental Disease. New York, July, 1890.
[5] New York Medical Journal. July, 1888.
[6] Deutsch. Arch. f. klin. Med. 1888, Band 43, 543.
[7] Munchener med. Wochenschrift. Munich, September, 1890.
[8] La Semaine Medicale. Paris, June, 1890.
[9] Vienna Correspondence, La Sem. Med., JOURNAL AMERICAN MEDICAL ASSOCIATION, Jan. 4, 1890.
[10] Centralblatt f. Allg. Path. u. Path. Anat. January, 1890. Quoted by Putnam.
[11] Arch. f. Psych., etc., xxj.
[12] Jour. of Nervous and Mental Disease, New York. October, 1889.

The etiologic importance of malarial poisoning can not be positively asserted from so small a number of observations. Gowers, Ross, Charcot, Hamilton, Spitzka and Strumpell fail entirely to mention it as a cause of tabes or disseminated sclerosis. "It is difficult," says Dr. Prince, "to show that these chronic spinal diseases develop immediately after a malarial attack. The secondary changes which are known to occur in other organs as sequelæ of malaria are not limited to the primary attack. On the contrary they are more apt to be found where malaria is chronic in the system. The connection between tabes dorsalis and syphilis is well recognized. Now it is a noteworthy fact that syphilis and malaria resemble each other in one particular, namely, they are constitutional diseases in so far as the poison or germs may remain in the system for a long period of time and only show signs of its presence by volcanic like outbreaks from time to time. Our knowledge of the effect of poisons upon the nervous system is very fragmentary and we may find that more diseases than we now imagine are due to unsuspected poisoning, zymotic or chemical, of one kind or another. Tabes has been attributed to absinthe, illuminating gas and other chemical poisons. As to malaria, it is known that intermittent paralysis such as hemiplegia, anesthesia, neuralgia resembling the crises of tabes, tremor, choreiform spasms, aphonia, insanity, amblyopia, and other disturbances of the nervous system occur in persons afflicted with the poison, showing that the latter does have a direct effect upon the nervous system."

It is generally believed that the nervous centers are the first to experience the deleterious action of these constitutional poisons by reason of their more delicate organization. The question as to how they are affected is still an open one. The lowered vitality of the entire organism together with a faulty action in the processes of nutrition is being adopted as the true explanation. This coupled with an inherited neuropathic state of the general constitution will quite suffice to explain the particular forms of nervous degeneration caused by these diathetic conditions.

In regard to the action of even the chemic poisons upon the spinal marrow, Spitzka says: "It is supposed that most of the poisons acting on the cord in this or a similar way, such as arsenic, cyanogen, barium and chloral do not produce a spinal lesion directly, but through the medium of a secondary cachexia." On the other hand, malnutrition may be present and to an extreme degree, without the spinal cord undergoing any changes. We can not call the disease, therefore, one of simple exhaustion; nor are we to ascribe the process always to a general or local malnutrition, as both conditions do not invariably obtain. It must be regarded as the expression of a constitutional taint, possibly not always of the same nature, but nevertheless always the same in its deadly action upon the nervous elements.

Some pertinent suggestions tending to demonstrate the constitutional nature of locomotor ataxia are to be found in a report by Dr. James J. Putnam,[13] of Boston, of a group of cases of system scleroses of the spinal cord, associated with diffuse collateral degeneration occurring in enfeebled persons past middle life and especially in women. Four of the cases were subjected to a rigid post-mortem microscopic examination. The entire eight were studied with particular reference to the etiology. "In most of the cases," the writer says, "the pathologic and clinical signs indicated a greater disease of the posterior than of the lateral columns. Yet neither their cause nor the symptoms were characteristic of locomotor ataxia." In this negative evidence there is a manifest hint that locomotor ataxia is not solely a disease of the posterior columns. While some of its more pronounced symptoms may depend upon implication of these tracts, others are caused by minute—almost undiscoverable—lesions in other parts of the cord and general nervous system. How are we to explain the cases of so-called pseudo-tabes, such as reported by Prof. Pitres, of Bordeaux, in the *Arch. de Neurologie*, in which all the classical symptoms of posterior spinal sclerosis were exhibited, but in which an autopsy revealed no discoverable lesion whatever in the cord, medulla, spinal nerve-roots, or peripheral nerves? They are as unaccountable and yet quite as suggestive as that opposite class, of which the famous case of Schultze[14] is a typical example, in which there was a complete disappearance of all symptoms with a persistent lesion of the spinal cord as shown at the autopsy. Dr. Putnam aptly suggests that "one can not fail to be struck with the fact that the causes which play the most important part are a strain of constitutional weakness, such as is preëminently seen in Friedreich's disease, both family and sporadic forms and specific toxic influences of which syphilis is the chief."

The degenerations of the spinal cord, then, are apparently the expression of a general cachexia. But, why, it may be asked, does this latent constitutional force exert itself as it does in locomotor ataxia, upon certain special parts of the spinal cord and nervous apparatus? That will remain a difficult question to answer until we have learned more of the physiology and histology of the nervous elements, the nature of the diathesis which gives rise to these degenerations and the particular action of the constitutional poison, zymotic or chemical, upon the various tissues of the body. Can any one satisfactorily explain why tuberculosis manifests a predisposition to attack the lungs, alcoholism the cerebral cortex, cancer the uterus and breast, and scrofulosis the lymphatic system?

The most ingenious and plausible theories offered to account for the prominence of the lesion in the posterior columns have had for their basis a disturbance of the vascular system. In one of the cases of general sclerosis reported by Putnam "the remarkably large size of the vessels, not only the finer arteries of the sclerotic area but to an even greater degree the larger vessels of the gray matter," was especially noteworthy. The walls of these vessels were thickened and hyaline and were surrounded by numerous leucocytes.

Buzzard has put upon record a case of locomotor ataxia in which similar vascular dilatations were found. Bevan Lewis attributes the spinal sclerosis which accompanies many cases of paretic dementia to dilatations dependent upon a disordered vasomotor action of cerebral origin. This condition of the blood vessels disturbs the nutrition of the parts with which they lie in contact. A hyperplasia of the neuroglia takes place followed by a compression-

[13] Journal of Nervous and Mental Disease. New York, February, 1891.

[14] Arch. of Psychiat. 1882.

atrophy of the nerve cells and fibers. Dejerine and Letulle[15] hold that Friedreich's disease is a congenital neurogliar sclerosis while all other medullary scleroses, including tabes are acquired forms of mixed sclerosis and belong to the vascular connective tissue variety. Achard,[16] on the other hand maintains that all varieties of medullary sclerosis are of the neurogliar type. It must be admitted that in some cases the process apparently begins in the nerve elements (parenchymatous degeneration) and that the hyperplasia of the neuroglia (interstitial degeneration) is purely secondary. Spitzka believes that the process is interstitial in the syphilitic cases, parenchymatous in the non-syphilitic thus making, it seems to me, two distinct diseases of it. Not a few hold that the lesion is parenchymatous in the peripheral nerves and interstitial in the cord. Whatever be the correct solution, the influence of the vascular disturbance is doubtless the same in all, and this disturbance is primarily the result of a constitutional defect.

Without stopping to discuss the question whether the process is one of degeneration or inflammation, let me ask you to note that it is not limited solely to the spinal cord. It extends into the medulla, the pons, the corpora quadrigemina and in some cases the cerebral cortex. In one case the sympathetic was affected. Involvement of the cranial nerves and of special centers of the brain, such as of sight and hearing, are occasionally indicated by some of the earliest pre-ataxic symptoms. In the cord itself other columns than those of Burdach and Goll undergo the degenerative process, as, for instance, the cerebellar tracts and the vesicular columns of Clarke. Many regard the degeneration of the columns of Goll as merely the result of contiguity, while others consider it as purely secondary to that of Burdach's column. Both views, however, dispense with the necessity of supposing that the disease of Goll's column begins in the same way as that of Burdach's, which, as we have seen, is a nutritional trouble.

The peripheral nerves are found to be affected almost constantly from the very beginning of the disease. The bilateral character of this feature of the disease is difficult to explain except upon the basis of an underlying diathetic condition. Dejerine[17] is radical enough to believe that tabes presents more and more the appearance not of a spinal cord disease, but of a peripheral disease of the sensory and motor nerves and the nerves of special sensation. The parenchymatous character of the peripheral nerve-degeneration as opposed to the interstitial degeneration of the cord, added to the fact that the portion of the nerve trunks lying between the cord and their diseased extremities is usually healthy; and furthermore, that there is no proportionate relationship either in regard to severity or extent, between the cord and nerve lesions, renders still more pressing the necessity for supposing an underlying constitutional diathetic cause. Simple contiguity or trophic influence will not answer as an explanation for such dissimilar and widely separated tissue changes. It is true that Mayer found always some degenerated fibers in the nerves of healthy mammals and man; but Oppenheim and Siemerling[18] have carefully examined the peripheral nerve lesions in fourteen cases of progressive locomotor ataxia and found more degenerated fibers than was allowed by Mayer to be normal. Yet, in many of these same cases, there were no symptoms indicative of the condition during life. In a case of "typical locomotor ataxia," Dr. Shaw,[19] of Brooklyn, found the changes in the peripheral nerves, sciatic, popliteal and plantar, to be different from those of the Wallerian degeneration, but resembling those accompanying chronic lead poisoning as described by Mayer, and diphtheritic paralysis as described by Pitres and Vaillard.

As yet there is no satisfactory explanation of the optic nerve atrophy. There is no direct continuity between the optic and spinal sclerosis. Of the two theories advanced, the one attributing it to a deleterious influence exercised upon the nerve by the diseased cord is far more difficult to comprehend, and less in harmony with similar observations in regard to other nerve trunks, than is the other theory, which makes both the cord and nerve lesions to depend upon the same general morbid influences. In a number of cases with laryngeal crises, Oppenheim, Eisenlohr and others found a lesion in the floor of the fourth ventricle with atrophy of the pneumogastric and disease of its nucleus. One of Spitzka's cases with gastric crises revealed sclerotic changes of the arteries in the ala cinerea. There is no uniform and regular succession through which these widely scattered lesions follow one another. Sometimes one, sometimes another will be the first to appear. Tabes is visibly a degenerative disease of the sensory system, peripheral, spinal and cerebral. It can not be a disease of any one of these parts alone, with that of the others merely secondary to it, since all these parts are often affected at the same time. The operative cause must be the same for all, as there is no evidence of a direct extension of the morbid process from one part to another. The parts are not directly united either by neural or vasomotor connection. Indeed, the sensory distribution of the lesion is not so rigid in its central localization, as many of the cranial nerves involved are entirely motor.

Spitzka, in opposition to Strumpell, asserts that the granular degeneration is like that of ergotin poisoning, is due simply to a vasomotor disturbance and should be compared more to that of a continued disseminated sclerosis than to a Wallerian degeneration. Likewise Babinski[20] with most modern pathologists finds that locomotor ataxia resembles disseminated sclerosis more closely than it does any of the systemic scleroses with which Strumpell and Westphal were inclined to classify it. Hence he does not consider the disease in any phase of its pathology as a secondary process. Zacher[21] agrees with Babinski in not regarding tabes dorsalis as a systemic disease. The whole morbid process is secondary only to a constitutional cachexia and is not the result of any mere extension from diseased structures of like nature. This distinction is of immense importance for the maintenance of my thesis.

It seems to me, therefore, that when we consider the wide distribution of these pathologic changes, the confusion among observers as to whether the process is one of inflammation or degeneration, the peculiar state of the membranes, and the associated vascular condition, we are justified in looking upon

[15] La Semaine Medicale. Paris, March, 1890.
[16] Bulletin de la Soc. Anat. Paris, No. 8.
[17] La Medecine Moderne, Paris, March, 1890.
[18] Annual of the Medical Sciences, 1888, Vol. i, p. 93.
[19] Journal of Nervous and Mental Disease, N. Y., July, 1888.
[20] Neurologisches Centralblatt, 1885, p. 324. Quoted by Spitzka.
[21] Arch. für Psychiatrie, xv, p. 340.

locomotor ataxia as the expression of a general disease. It is an affection of the spinal cord in about the same way and to about the same extent that consumption is a disease of the lungs, scrofula of the lymphatics, and scorbutus of the skin and mucous membranes. The pathologic findings are far from being commensurate with the number and diversity of the symptoms. It is not unreasonable to suppose that a disease of so slow, insidious and varied a character should at times be the result of pathologic changes quite beyond the powers of chemistry and microscopy to explore. In fact, it is admitted by some of the most authoritative observers that the lesions of locomotor ataxia must in every case be very gross before they can be recognized histologically.

In conclusion, then, let me repeat that the history, etiology, pathology, symptoms, complications and treatment of locomotor ataxia point to it as a constitutional malady, with its most prominent manifestations in certain vulnerable parts of the whole nervous apparatus. Our knowledge of the disease is not yet complete enough for us to affirm or deny this positively, but from what we already know of it, I am inclined to regard favorably this constitutional hypothesis and to continue the study of the disease still more closely from this particular standpoint.

Columbus Memorial Building.

THE INTERRELATION OF SOME OF THE LOCAL SPASMS OF EARLY LIFE.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

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The reciprocal anatomico-physiologic bases, etiologic factors and clinical data of idiopathic torticollis, spasmus nutans and laryngismus stridulus are conspicuously interwoven. The convulsions are local, and whether or not their origin be central, peripheral or reflex, the neuro-muscular territories implicated have an important bearing upon this subject.

The nerves that control the mechanism of these regions are the vagus, the spinal accessory, the cervical spinal and the cervical sympathetic. Not alone are their nervous centers contiguous and correlated, but their conduction paths and terminations inosculate and communicate with branches to distant organs. Thus the exhibition of sympathetic interchangeability and reflex phenomena is interpreted.

Another common factor in the determination of these pathologic states is the immaturity of youthful tissues and organs. The muscles are undeveloped and untrained; the larynx is small and narrow; the nervous system is unstable; consequently, responds forcibly to the slightest stimulus. Let there be a morbid irritation, there results an overflow of nerve force along accustomed channels: For instance, compare the long drawn-out inspiratory sound when the babe begins to cry, to the aspiratory sound at the commencement of an attack of laryngismus. Or contrast the incoördinated infantile head motions to the nodding and turning of spasmus nutans.

The laryngo-spasmic explosions upon crying, swallowing, etc., can be further accounted for, granted that an abnormal activity of the larygeal center renders them more susceptible to the normal blood stimulus.

The localization, by Semon and Horsley, of the expiratory centers at the base of the third frontal convolution is also significant in this connection; for intellection and inhibition are not attributes of infancy and childhood.

Deducting from the above, the kindredship of wry-neck, nodding spasm and laryngo-spasm seems to be established. It is begging the question to call them functional neuroses. It were better to acknowledge ignorance of their pathology, as does the nomenclature, a cognizant expression of symptoms. Some exception may be taken to the recognition of wry-neck as a neurosis. Its manifestations are distinctly neurotic and confined to a disturbance of one or more affiliated nerves.

In chronic torticollis, either disease of the centers exists, or there is such impairment of the nerves that resection and extirpation proves salutary. From the very nature and course of the acute disorder, no lesion can be demonstrated, but the occurrence of the same morbid change is not an unreasonable inference. Nodding spasm is, as compared to torticollis, a more intense and greater neurographic derangement. Its conjunction with nystagmus indicates a central lesion.

The etiology of these maladies is ascribed to season, heredity, age, emotional disturbances, gastro-intestinal irritation, acute infectious diseases and last, but not least, rachitis. These are unquestionably, predisposing causes, and rickets probably bears the same relation to laryngismus that scrofula does to the tubercular infection. But it is not fairer to accept the absolute etiologic relation of rickets to laryngismus, than it is to proclaim pneumonia an unconditionally pneumococcus infection, debarring a streptococcus or tubercular pneumonia.

Dunkin, in speaking of torticollis says: "I question whether the affection is ever directly caused by rheumatism properly so called."

Recently, in some of my own cases, I have noted the co-existence of influenza and wry-neck. Drs. Watson and Curtin describe "stiffness and pain in the back of the neck" accompanying a number of cases of influenza. Lyman reports a case of post-influenzal torticollis and head jerking. The literature occasionally refers to this alliance of such supposedly different disease processes. W. B. Hadden mentions a patient suffering from head-nodding in whom no sign of rickets nor neurotic history was obtainable.

The same is true of an 11 months old nurseling who came to my clinic a month ago. The fontanelle was about closed and dentition regular, and all other signs of rickets were wanting. There was no history of previous illness and with the exception of the head-nodding, the babe appeared perfectly healthy. The movements were intermittent and rotatory and ensued upon a fall from the child's chair. An intercurrent attack of measles aggravated the initial trouble. Nodding motions are now added to the original ones and are continuous except during sleep.

This patient, and the only case of laryngismus stridulus that I have seen in a five years dispensary experience came from a practically foreign (Hebrew-Russian), unhygienic settlement.

Comprehensive statistics by able native and foreign pediatricians disclose similar environment; a fact pointing to a possible infectious origin of the disease. In America, where better living obtains, spasmus

nutans and laryngismus are so rare that my previous admission will be pardoned. Likewise the words of Drs. Adams and Blackraeder are not irrelevant. The former says: "There may be a few, like myself, that have never seen laryngismus stridulus complicating rickets." The latter says: "In Montreal I may say that the cases of laryngismus complicating rickets are comparatively few in English hospitals, and a very infrequent symptom in this country."

In Europe, this disease associated with tetany occurs isolatedly and in endemics and epidemics. Gangenhofer, Escherich and Loos, call tetany an infectious disease; possibly the other local spasms under discussion belong to the same category. Clinical facts indicate protean etiologic derivatives, rather than any one or few causative agencies for torticollis, spasmus nutans and laryngismus stridulus.

The dissentient views of able teachers is in part responsible for this confusion and uncertainty. Escherich, Loos, Kassowitz, Gangenhofer, Gay and Soltman are a few of those giving earnest attention to the relation of season, age, heredity, unhygienic surroundings, infection, etc., to laryngismus and tetany. The two first named pronounce laryngismus but a symptom of tetany that does not stand in any causal relation to rachitis. This brings a storm of protest from Kassowitz who is the declared exponent of the rachitic genesis of laryngismus.

The craniotabic theory of Elässer does not seem tenable. Nor are Kassowitz's pathologic findings in the skull-cap, membranes and cerebral lesions in rickets, proof positive of their kinship to the dangerous respiratory symptoms of laryngismus.

"The latter," says Gay, "does not necessarily fall upon those who have the most marked signs of rickets." Again, laryngismus is present where rickets can not be demonstrated.

On the other hand, laryngismus is wanting in cases of most marked rachitic deformity where excessive weight and size of the head, and muscular weakness, or irregular and diminished thoracic capacity might lead to sudden serious respiratory disturbance.

Thus, we see, the question is yet an open one. Escherich and Loos, in their study of the relationship of tetany to laryngismus, are clearing the field for a broader and more impartial view of the entire subject. Their work is supported by the clinical investigations of Gangenhofer, Hoffman, Neusser and Jasch, Gay, Abercrombie, and Smith, who describe cases of tetany either associated with laryngismus, or of laryngismus alone in which contractures of the extremities are present, but which is marked by the three cardinal signs of tetany, viz.: Trousseau's phenomenon, the facial phenomenon, and general neuromuscular hyperkinesis.

Gay, in dwelling upon the importance of the facial irritability says: "It is not limited to the seventh nerve, but is significant of an increased excitability, probably of all the motor nerves of the body." "It seems to bridge over and connect laryngismus with tetany as it occurs in children."

To sum up:

1. Torticollis, spasmus nutans, laryngismus stridulus, and possibly tetany are closely allied neuroses, consequent upon their common anatomico-physiologic characteristics.

2. Their relation to commonly accepted causes, such as heredity, environment, rickets, etc., is admitted.

3. Their etiology is undetermined.

4. They may be of an infectious origin and, as it were, the common, the comparative and superlative degrees of one and the same affection.

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CAUSATION AND EARLY TREATMENT OF MENTAL DISEASE IN CHILDREN.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

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When I state that this paper is intended to deal with the physical causes which underlie the mental defects of the young, it may appear to you that it could be more fittingly read before specialists in their care and treatment. I hope to demonstrate to you, however, that a very large responsibility antedates their admission into institutions for the feeble-minded, and rests on no one as heavily as on the family physician. It has long been held that mental enfeeblement in children, in the vast majority of cases, was purely non-development of the nervous centers; and this view has been quietly accepted by the general profession and the public at large. Many a family with a clean history of mental health, when a bright child has suddenly changed and mental growth has ceased, perhaps after some slight illness, or perhaps after no noticeable physical dis-

turbance, can not view the misfortune in the same way as they would look on an injury to a limb or any bodily organ; but feel it as a reproach.

Year by year, as opportunities for studying the clinic and pathologic history of these unfortunates increase, it is more apparent how largely their infirmity results, as the residual effect of acute disease. It is to such cases; the diseases which most frequently leave such lasting and serious effects, and the brain changes they induce—with some suggestions regarding their early treatment, that I ask your attention for a few minutes.

The various forms of agenesis, though interesting, we may pass without comment. The laws of heredity are entirely beyond our control; and the marriage of the unfit, with offspring certainly destined to become a burden, is scarcely less so under our present social conditions. The census of 1890 showed over 95,000 feeble-minded in our country, and their number at present will approximate and probably pass the 100,000 mark. This great number may be roughly divided into cases of primary imperfect development, and into what may be looked upon as a juvenile dementia, the result of destructive change in the brain tissue. The development of the brain may be retarded by disease in early years. The growth of the organ in the first years of life is exceedingly rapid. Tuczek, basing his statements on investigations by Huschke and Bischoff, estimates the daily increase in the size of the brain, during the first year of life, as more than one cubic centimeter. Dr. Robert Boyd estimates the brain weight at birth, ten ounces to eleven and one-half ounces. In thirty-four children between one year and two years, it averaged thirty-two and twenty-five one-hundredths ounces. Between two years and four years thirty-eight and seventy-one one-hundredths ounces. It will be readily understood that any interference with nutrition in this period, if continued for some weeks, as it might be by any disease, would be apt to leave its permanent mark on the growth and full development of the organ. This theory is borne out in fact. In seventy-five brains taken from all classes of feeble-minded children, I found the average weight only thirty-eight and three-tenths ounces. It is rare to find their brain above forty-five ounces in weight, and when it is so found it is generally in cases where the mental defect developed in the later years of childhood; in children when the mental trouble is very slight, or in low grade cases with cerebral hypertrophy. In only eight of my cases was the patient under 10 years old. Such cases are not to be classed with cases of congenital non-development, which, being an inherent fault in the brain, can not be combated as can the condition just described. With congenital or prenatal arrested development, we may class victims of convulsive attacks, which appear before the beginning of dentition. Also cases of injury from prolonged labor or forceps pressure; and they are by no means few. No intelligent physician would apply injudicious pressure on the thin skull and soft brain of the infant except to avoid still greater danger; on the careless or unscrupulous operator all warnings are wasted. It would be unwise to pass over all forms of imperfect development as beyond the reach of medical skill, without some allusion to craniectomy for the relief of microcephalus from premature ossification of the bones of the skull. This operation has, of late, been performed several times; and from a surgical point of view, successfully. From my own observations, I am strongly of the opinion that the small skull is the *result* of the small brain rather than the *cause*. Evidence of pressure I have never seen except in one case. The true value of the operation can only be determined when a sufficient number of operations have been performed to make an intelligent comparison with cases who owe their improvement to school training alone, which is often very successful in such cases, unless sclerosis accompanies, (or perhaps causes) the retarded growth.

With all these omissions, the number of cases where brain lesion and consequent mental enfeeblement appear and originate in easily recognizable disease, at an age when medical treatment may be intelligently pursued, will be found to be very large.

Through the courtesy of authorities at the Elwyn School for the Feeble-Minded, I have been able to examine 1,000 histories from their records, choosing those series of cases which contained the most cases under my own care during my eight years residence in that institution; which, by knowledge of the children and their friends, I had excellent opportunity for verifying.

I have omitted all cases where direct heredity could be traced, when the infirmity appeared to be congenital or the result of accident at birth, or where spasms occurred or lack of ordinary intelligence was noticed before the age of 6 months, and when the patient was too young to decide as to his intelligence at the onset of the alleged causative disease; regarding such cases as possibly congenital. I have declined to count any case said to be due to traumatism, unless spasms, paralysis, or other symptoms of nervous shock directly followed the accident.

Notwithstanding this careful pruning, no less than 322 cases out of the 1,000, appear to have been the direct result of disease which would ordinarily need and receive the physician's care. Quoting figures like these at the International Conference of Charities at Chicago last summer, a foreign representative asked: "What are the doctors doing in these cases?" A question I did not attempt to answer.

The following table will show the relative frequency of the diseases in which the cerebral mischief appears to originate, and the age of onset:

	6 months.	6 to 12 months.	12 to 18 months.	18 to 24 months.	2 to 5 years.	5 to 10 years.	10 to 15 years.	Unknown.[1]	Total.
Spasms of dentition	2	29	25	19	..	..	..	..	75
Traumatism	3	10	2	4	20	6	3	3	51
Cerebral inflammations	5	3	8	3	14	2	4	3	42
Scarlet fever	2	2	3	3	15	9	1	7	42
Epilepsy of unknown origin	..	..	..	..	10	3	5	2	20
Mental shock (fright)	..	1	1	..	4	2	2	1	11
Gastric and typhoid fever	..	..	1	1	5	1	1	..	9
Whooping cough	1	1	1	1	4	..	..	1	9
Measles	..	2	2	1	2	1	..	1	9
Exposure to heat (sunstroke)	..	..	1	..	3	1	1	1	7
"Fever" (form unknown)	1	..	..	1	8	3	..	..	13
Cholera infantum	..	1	4	..	..	..	..	1	6
Smallpox	..	1	1	..	..	2	..	1	5
Malarial fever	..	2	1	..	..	1	..	..	4
Infantile paralysis	1	1	1	..	..	..	..	..	3
Diphtheria	..	1	1	1	..	..	..	..	3
Vaccinia	..	1	..	1	1	..	..	..	3
Marasmus	1	1	..	..	..	..	..	..	2
Catarrhal fever	..	2	..	..	..	..	..	..	2
Abscesses	..	..	1	..	1	..	..	..	2
Exposure	..	..	..	..	1	..	..	..	1
Erysipelas	..	..	..	..	1	..	..	..	1
Poison (Wild Lilac)	..	..	..	..	1	..	..	..	1
Self abuse	..	..	..	..	..	..	..	1	1

[1] While the age is not given, in these cases, the history shows that the child was beyond early infancy.

It will be seen that convulsions, occurring within the period of dentition, heads the list. Then comes traumatism, which includes all injuries from blows or falls on the head. Among the specific fevers, scarlet fever takes the lead for its destructive effects on the nervous system; although the cerebral inflammations claim an equal number. Fright occasions an unexpectedly high number, but in each case counted, the history seemed completely to substantiate this as the active cause.

Let us compare with this table the result of 300 autopsies collected from many sources:

Hemisphere diseased.	Right.	Left.	Both.	Not stated.	Totals.
Atrophic sclerosis	21	14	38	23	96
Porencephalus	14	9	15	9	47
Porencephalus and atrophy	3	6	4	1	14
Agenesis	1	6	9	6	22
Tuberous sclerosis	1	1	11	0	13
Atrophy with internal hydrocephalus	0	0	2	0	2
Atrophy with cyst	1	0	1	0	2
Atrophy with hypertrophic skull	0	1	2	0	3
Hydrocephalus	0	0	17	0	17
Thickened membranes	0	0	14	0	14
Thickened membranes and vessels	0	0	2	0	2
Defective corpus callosum	0	6	29	0	29
Microcephalus	0	0	10	0	10
Hypertrophy	0	0	15	0	15
Hypertrophy with sclerosis	0	0	1	0	1
Cyst	3	0	0	2	5
Primary disease in cells, fibers, or both	2	0	3	3	8

It will be seen at a glance how relatively few are the cases, when conditions of non-development alone are the dominant defect in this table. It may be justly said that in such a large number, collected from every possible source, many of them intended to illustrate the cause of *physical* defect rather than *mental*, that the true proportion may not be here represented. I beg leave therefore to quote from 100 consecutive autopsies made at the Elwyn institution, in which in 54 per cent. conditions were found constituting the residual effects of former disease or traumatism. The initial stage of some of these, no doubt, occurred so early in life that their nature, and possibly even their existence, might not be determined. Many others probably occurred at an age when there was good opportunity for careful study and perhaps helpful treatment.

Glancing at the table, the large number of cases of sclerosis and porencephalus will be at once noticed. These are both terminal conditions; and when fully established, it is doubtful if they can be relieved by any means within our present knowledge. Closely allied to these changes, we find the thickened and adherent membranes which follow meningeal inflammation, and which must necessarily interfere with the large blood supply so essential to the perfect functional life of the cerebral cortex. Of their early medical treatment we will speak a little later.

An interesting disease, fortunately quite rare, is tuberous sclerosis (sclérose tubereuse of the French writers). From a study of the histories of these cases, which I have been able to verify by autopsy, I should describe its clinical history as follows: Its onset is sudden, and demonstrates itself by spasms of only moderate severity, but nearly continuous. They last always several hours, and sometimes for days, and are generally localized in certain groups of muscles, rather than extending to general spasm. The rise in temperature is moderate. Stupor is continuous but may not be profound. The spasms are intractable under every form of treatment I have ever tried, and only ceased when the areas involved are functionally dead. If the child survives, it will be found that certain cerebral functions, corresponding to the areas attacked, are entirely and permanently obliterated. In no form of brain disease with which I am acquainted is the loss so sudden, complete and lasting as in this form. Post-mortem, we find rarely single, generally several areas in the cortex, quite sharply defined to the eye, gray white in color and slightly elevated. Microscopically it appears to be due to a finely granular effused material, which presses on the normal elements of the cortex, obliterating the lymph spaces. The functional activity of the cells is first destroyed from pressure, and they soon atrophy. A little boy at Elwyn was found to have several areas of this disease, but his mother insisted that he had never had either a fit or any severe illness. That certain faculties (articulate speech for one) had never shown the slightest tendency to develop. This has led me to suspect that this condition might form in utero, as his mother was subject to spasms during her pregnancy. Though only eight years old, he had a well formed brain weighing forty-eight and one-quarter ounces. The diagnosis of this disease is not difficult, its prognosis is distressingly easy, and I know of nothing which can greatly relieve it. I have dwelt on it to this length, because it is not generally mentioned in text-books, and it is desirable to eliminate in diagnosis of more tractable affections.

From our examination of the pathologic conditions underlying mental enfeeblement, it is evident that medical treatment, at the time they are placed in institutions, is liable to arrive too late to be of much service. By the time the child has reached the age of seven years, the brain has finished its period of most active growth. The hypertrophied brain has its bulk of interstitial tissue usurping the space and nourishment needed by the true brain cells and fibers for their own proper development; and the brain which has suffered from violence or destructive inflammatory process, has its mass of sclerotic scar tissue, whose influence on the healthy portion of the organ is that of a local irritant, tending to induce spasm or an increasing area of disease. However refractory such cases may be at their maturity, it is by no means true that they are equally so at the beginning. Let us take up some of the clinical causes of mental enfeeblement in the order of their frequency.

First among them is spasm occurring during the period of dentition. We find no less than 72 of our 322 cases have no other assignable cause for the subsequent mental decadence. Although in a large number of cases the convulsions ultimately cease, mental development is found to have been interfered with. All infantile disease which places any special strain on the system during this critical period, is liable to cause the same danger, and it will be generally found that the brains of the imbecile weigh less than those of normal children, and we have acquired imperfect development as a complication. The spasms of dentition is a subject deserving the most careful study and treatment.

It is a grave mistake to forget that the spasm by itself is but a symptom. That, however alarming it may be to the friends, it rarely does permanent harm. It is not scientific practice in such cases to numb the brain with large doses of bromid, and take

no means of strengthening its inhibitory power by exercising every known means of building up the nervous system. Plenty of fresh air is an essential. Moderate exercise, tonics, especially the phosphates, long continued. Delay all attempts at school education until assured of recovery, and above all other things guard the child's diet. It is my opinion, formed by years of study of large numbers of epileptics, that there is no more potent factor in the production of spasm in children than irritation of the gastro-intestinal tract. In a recent study of 566 cases of juvenile convulsion, in which the histories appeared full and reliable, in 52½ per cent. the convulsions had ceased although mental enfeeblement had in some degree persisted. I believe as many would have recovered without so many cases of mental impairment, had the cause shared the treatment with the symptom.

Next in order comes traumatism, including blows, falls and all other injuries to the head, from which I have excluded all cases which were not followed by spasms, paralysis or other symptoms of severe nervous shock. It is comparatively rare for operative procedure to be made in these cases, partly, no doubt, because friends will not allow them. It is a very doubtful matter how much good operation would do, except where fracture occurs; for post mortem examination demonstrates that the injury from blows is apt to be diffuse rather than local. Complete rest for some time after the accident should be insisted upon, and the appearance of a spasm after the primary irritation has had time to subside, should awaken the gravest apprehension. Secondary mischief has almost certainly been awakened and such cases are most obstinate. The treatment recommended for early convulsions should be begun as early as possible. I would not discourage operative measures for such cases in these days when such operations can be done with relative safety.

It is difficult to believe that large doses of bromids should accomplish anything in these cases, except to smother the spasms and blind both physician and friends as to the progress of the disease. Of the medical treatment I will speak later. The specific fevers are seen to be a very fertile cause of subsequent cerebral mischief, especially scarlet fever. It is not at all uncommon for convulsions to occur at some period of its course. In measles, if the nervous system is weak, meningeal symptoms are very apt to complicate the case. At the Pennsylvania Institute for Feeble-Minded Children, three epidemics of measles occurred, covering 397 cases. In the school department, when the children were of more healthy growth, catarrhal complications predominated; but in the asylum department, cerebral complications were the rule in the many cases where complications occurred, in some cases so severe as to kill the child in two or three days. When pneumonia would fatally attack a measle case, meningeal congestion would also be found post-mortem. In all such cases, as soon as indications of intercranial irritation are seen, prompt derivative measures should be employed to relieve cerebral congestion before the foundation be laid for permanent changes. Bromids may enter freely in the treatment at this stage but should not be long continued. The general remedies for this purpose are too well known to need mention. The number of imbeciles left in the wake of acute inflammatory cerebral disease is well known. Only the comparative infrequency of this class of affections prevents this number from being frightful.

In all these diseases which I have described it is the residual products which cause the dreaded after effects. The remedies which are known to be of service are not numerous. Among those on which I have learned to look with favor is chlorid of gold. My use of it has been limited, but occasionally it has proved very effective. Much more can I commend a combination of iodid of potash with iodid of iron. In children where there has seemed to be a reawaking of cerebral change, and extension of old trouble has threatened, the symptoms have abated and the children have gained flesh and strength under its use. Arsenic, though less certain, has occasionally done good service.

The most satisfactory treatment is for the physician to follow his case through convalescence to complete health. To advise regular habits, sufficient rest, and above all things, and before all things, to provide rest and food for the rapidly growing brain, whose needs in the very young dominate all other organs, and the retardation of whose growth may be lifelong.

Lastly, I will refer to those obscure cases of epilepsy which arise in the years between dentition and the advent of puberty without any cause that we can demonstrate, merely to confess my inability to understand their origin or to recommend special method of treatment. They will occasionally recover under almost any treatment. Bromids will best diminish the frequency of their spasms, and, I believe, shortens the period during which they are fated to suffer.

THE FUNCTIONS AND THE FORM OF THE OBSTETRIC FORCEPS.

Read in the Section on Obstetrics and Diseases of Women at the Forty-fifth Annual Meeting of the American Medical Association held at San Francisco, June 5-8, 1894.

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The functions of the obstetric forceps may be divided into constant, occasional, extraordinary and incidental. Its sole constant function is traction—the reënforcement of the natural *vis-a-tergo* by an artificial *vis-a-fronte*. As traction is intended to supplement the natural forces of labor, it should imitate them in so far as an artificial process may imitate a natural one—it should be intermittent, it should be moderate, it should urge the presenting part by its smallest circumference along the line of least resistance which in a general way will coincide with the axis of the parturient canal, at whatever point the presenting part may be engaged, and as nearly as may be with the axis of the blades of the forceps. Minor exceptions, however, are not infrequent. When the head impinges too strongly on the pelvic walls, either laterally or anteriorly, the line of least resistance will traverse the pelvic axis towards the opposite wall. When the forceps is applied before rotation takes place, the axis of the blades will depart from the axis of the pelvis proportionately to the obliquity of the application; at the outlet the interests of the perineum require that traction be anterior to this axis. Traction by the ordinary forceps as usually employed is neither moderate nor in the line of least resistance, and it is likewise neither in the axis of the blades nor in that of the pelvic

canal. The axis of the handles being set at a considerable angle anteriorly to the axis of the blades, and the grasp being at a right angle with the former axis, the direction of the tractive force exerted is always indefinite, not to say problematical, and generally deviates greatly either anteriorly or laterally from the normal line. Traction must be injurious and excessive in ratio to its misdirection.

The forceps of Morales, Hubert and Tarnier, while avowedly designed for traction in the axis of the pelvic canal, are really adapted to traction in the axis of the blades only. They are all alike incapable of adaptation to the varying requirements of individual cases. They embody a distinct advance in the direction of the principle which should guide us in traction, but they do not fully realize it. This principle is traction in the line of least resistance. It should not be departed from except for some well-defined and rational purpose—to promote rotation, for instance, or to protect the perineum. It may be objected that the line of least resistance, like the mathematical axis of the pelvis in the living subject, is incapable of demonstration, but it can not be denied that an empirical approximation to this line should be attempted in every case of forceps delivery.

Leverage, the occasional function of the forceps, may be either axial or transverse. Axial leverage is employed to promote rotation and transverse leverage to produce flexion and extension and, by some operators, in the form of lateral leverage, to "pry" the fetus out of the maternal passages. Lateral leverage should be rejected absolutely because, as Smith has demonstrated, it is mathematically absurd and, as experience has shown, it is extremely damaging to the maternal tissues. Transverse leverage, in promoting flexion and extension, may be applied equally well with any of the modern forceps, but axial leverage as applied by the ordinary forceps is indefinite and inefficient. It is made in the axis of the handles and at a considerable angle with the axis of the blades, and therefore instead of sweeping the head about its own axis tends to sweep it about an axis altogether external to itself and at a marked angle with its axis of presentation.

Compression, the extraordinary function of the forceps, may be made with the greatest exactitude with the shovel-handled forceps which I presented to the profession about a year ago. Among other forceps, however, when compression is exercised designedly there is little choice, but incidentally the ordinary forceps exerts a compression immensely greater than that required for secure prehension of the fetal head. This, it must in all candor be admitted, is a serious objection to this instrument. If compression as an independent function of the forceps is of doubtful propriety and always to be exercised with the greatest caution, compression as an incident of traction should be reduced to a minimum compatible with a solid grasp of the presenting part of the fetus. This is accomplished by axis-traction forceps and by no other.

Uterine excitation, the incidental function of the forceps, its so-called dynamic influence, is exerted by the ordinary forceps probably in a greater degree than by any other, but solely because of its defects, and not because of its perfection as an instrument of precision. In efforts to make axis-traction the handles are crowded against the perineum and the blades against the anterior walls of the uterus and vagina while, in leverage, the blades are forced laterally against the latter structures. The pressure and friction thus produced, by reflex action, often materially strengthen uterine and abdominal contractions, but always at the expense of the maternal tissues.

The function of the obstetric forceps must determine its form. The blades should conform to the contour of the fetal head, and to the curve of the pelvis, and afford a secure and harmless grasp of the former without materially enlarging either of its diameters; the lock, on the one hand, should be easily adjusted and, on the other, should entirely prevent rocking of the blades; the handles should enable the operator to exercise all of the functions of the forceps with the greatest ease, safety and efficiency.

In accordance with these views, Messrs. Tiemann & Co. have constructed for me two forceps, a long

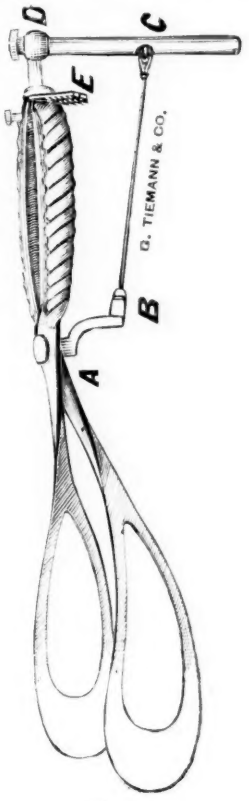

Fig. 1.

Fig. 2.

and a short which, in form, differ from previous forceps in several important particulars: The distal end of the fenestrum is filled in for a full inch or more; the axis of the handles is parallel with the axis of the blades; the axis-traction rod is connected with the lock of the male blade by a ball and socket joint; the axis-traction bar drops perpendicularly from the right handle about whose axis it moves for nearly 180 degrees; the catch for fixing the blades is in the form of a ratchet placed at the end of the handles, operates automatically and, when not in use, drops between the handles entirely out of the way.

The advantages of this forceps are:

1. Harmless grasp of the fetal head. The danger from compression varies in direct geometrical ratio with the amount of pressure applied, and in inverse geometrical ratio with the area over which the pressure is distributed. Undue compression is exercised

by the ordinary forceps for three reasons—viz, *a*, the extractive force not being exerted in the line of least resistance must be greater than with axis-traction instruments, and the compression correspondingly greater in order to obviate slipping of the blades; *b*, the grasp of the handles is maintained by lateral pressure which increases, particularly when the handles approach parallelism, as it were in parabolic ratio with the increase of extractive force; *c*, traction altogether and compression chiefly are exerted by the distal half of the blades—by the half lying beyond the point of greatest divergence. This pressure, whether of traction or of compression, is made by the ordinary forceps on a narrow surface, that underlying the bars of the blades and rarely exceeding five-sixteenths or three-eighths of an inch in width on either side. This undue pressure, this pressure in excess of what is required for a secure prehension of the presenting part, applied by the narrow bars of the distal half of the blades, it is that so often proves disastrous to the child.

Pressure when applied to the lateral surfaces of the head is by no means so dangerous as when applied obliquely or antero-posteriorly but, with a living child, it may be laid down as a rule absolutely without exception that compression should be reduced to a minimum compatible with a firm grasp of the presenting part and a safe delivery of the mother.

Not only should the pressure be minimized in the aggregate, but it should also be minimized at every point by distribution over the largest possible surface—thus greatly diminishing its injurious results. By the forceps I present to you, total pressure is minimized by axis traction applied by a handle that exercises no leverage whatever, and pressure on any given surface is minimized by filling in the distal or further end of the fenestrum for a full inch and thus nearly doubling the pressure area.

2. Secure grasp of the presenting part of the fetus. Traction with the ordinary forceps is usually made at an angle and frequently at a considerable angle anteriorly to the axis of the blades and has a proportionate tendency to promote slipping. Traction with this new forceps, however, is always quite or very nearly in the exact axis of the blades and slipping, if it occur at all, will not be attributable to any mis direction of the tractive force.

3. Avoidance of injurious pressure on the maternal tissues. The ordinary forceps endangers the maternal tissues in three ways: *a*, by misdirected traction dragging the head upward against the anterior vaginal wall; *b*, by crowding the blades too far forward in efforts to make axis-traction at the superior strait; and *c*, by pinching the intervening tissues between the forceps and the lateral walls of the pelvis in leverage and pendulum traction. These dangers are wholly obviated by the new forceps.

4. Easy application. Comparison here is made particularly with the Tarnier forceps and its numerous modifications.

5. Firm and comfortable grasp in traction. These are possessed by the Tarnier forceps also, but, in protracted and difficult cases, the handles of the ordinary forceps are a source of not inconsiderable annoyance from both discomfort and insecurity of the grasp.

6. Convenient catch for holding and for releasing the blades. The nut and screw of the Tarnier forceps require some time for their adjustment both in fixing and in releasing the blades, while the catch of this instrument is operated instantly for either purpose and, when not in use, drops between the handles out of the way.

7. Freedom of one hand in traction. The force applied in axis-traction need rarely exceed 20 or 30 pounds and probably should never exceed 50 or 60, although some authorities place the limit as high as 80 or 100 pounds. This force can be easily and comfortably applied with one hand, either the right or the left, leaving the other perfectly free for such uses as constantly present themselves in instrumental delivery.

8. Axis-traction wherever and however the forceps may be applied. The Tarnier forceps and its numerous modifications when applied to the sides of the pelvis enable us to make traction in the pelvic axis as nearly as any forceps can—no more nearly, however, than the forceps under consideration; but when applied obliquely, when applied before rotation has been accomplished, the line of traction departs more or less and sometimes considerably from this axis—it is displaced laterally and superiorly. Not so, however, with the new forceps. When it is applied obliquely the axis-triction handle drops down by gravity into a perpendicular position. Grasping this handle well down below the connecting rod, traction may be still be made in the pelvic axis.

9. Lateral traction whenever indicated. In the living subject it is impossible to determine the exact mathematical axis of the pelvis. Approximation is all that is aimed at even in so-called axis-traction but, as was hinted at the outset, it is the line of least resistance and not the exact pelvic axis that should be sought—this is the method of nature. In a general way, the line of least resistance will correspond with the axis of the pelvis, but at any given point it may or may not. In every case of instrumental delivery the line of most efficient traction, the line of least resistance must be determined empirically—a general law we have, it is true, which must, however, be interpreted by the conditions peculiar to each individual case. Leverage and pendulum traction, are a blind effort to discover this line of most efficient traction, or in other words the line of least resistance. Their efficiency does not depend on leverage but on alternate lateral traction. By carrying the head to one side, pressure is relieved on the opposite side where friction is so reduced that progression takes place; traction is then made on the other side with a like result. This, to my mind, is the solution of the undoubted efficiency of pendulum traction.

But lateral traction is often indicated independently of oscillatory leverage. When the head impinges strongly on either wall of the pelvis, friction will be diminished and the line of least resistance approximated by bearing away to the opposite wall. When, for instance, the forceps is applied obliquely, either at the superior strait or in the pelvic canal, the line of traction may now and then be profitably carried somewhat to the side opposite to that of the presentation. On the contrary, however, traction in the pelvic axis or slightly toward the side of the presentation will sometimes materially assist in producing rotation; for now the force is applied below and to the side of the axis of the blades, while the resistance is made above it and to the same side—the leverage is obvious. This combination of force and re-

sistance is an exact imitation of the process of nature, and conforms perfectly to the dictum enunciated at the beginning of this paper—traction should imitate the forces of labor in so far as an artificial process may imitate a natural one.

10. Index for the direction of traction. The small ring in the axis-traction rod when in normal position marks a point within the axis of the blades. Traction at right angles to the axis-traction bar, with two fingers above the ring and two below, will be in the exact axis of the blades, and approximately in both the axis of the pelvis and the line of least resistance. This ring then furnishes a guide quite as trustworthy as the obsolescent handles or so-called indicatory needles of the Tarnier forceps.

11. Effective leverage. Transverse leverage, either antero-posterior or lateral, may be just as easily and effectually applied by this forceps as by the ordinary one, and axial leverage much more effectually, so that Pajot's criticism of the Tarnier forceps in this respect does not apply to the forceps under discussion. By reversing the axis-traction ring, the nipple is made to catch in a slot at the end of the male blade, and to fix the axis-traction rod. Axial leverage may now be applied by a pronative or supinative movement of the forearm.

12. Freedom of the head to rotate. The ordinary forceps unless very skilfully used materially hinders rotation. The Tarnier forceps allows the head far greater but not perfect freedom. The forceps under consideration may be employed so as to permit the head absolute freedom in this respect, to assist rotation by a combination of force and resistance or, if desired, to act as a powerful axial lever. Freedom of the head is assured in a far wider range of traction by this forceps than by the Tarnier.

13. Exactitude in the application of force and consequent economy in its expenditure. The ordinary forceps is a wasteful instrument. Traction, as usually employed, demands an extravagant expenditure of force which is largely consumed in useless and even injurious pressure on the maternal tissues. Traction by the methods of Smith and Pajot, as Lusk observes, requires both strength and skill. Traction with this forceps, on the contrary, can be made almost wholly in the line of least resistance and therefore with the least possible waste. This must be conceded to be a point of importance when we reflect that in these cases useless force is injurious force.

14. Reserve force and consequent control. In difficult cases the ordinary forceps demands an extravagant expenditure of force and attention. In consequence little reserve, either of force or of attention, remains for the exercise of proper control. As I have elsewhere said, delicacy in any operation implies the existence of a reserve force commensurate with the force employed; with this the greatest force may be conservative; without it the slightest force destructive. With this forceps the various forces are economically applied and intuitively regulated. Power, therefore, is obtained with a modicum of force and regulated with a minimum of attention. In consequence there remains a large residue of force and attention for the exercise of the most perfect control. Not only are the necessary force and attention reduced to a minimum, but also one hand is left free to perform any manipulation that may be indicated in the interest either of mother or of child, and to watch every step of progress or aberration in delivery.

15. Parallelism of the axis of the handles with that of the blades. The forceps is frequently indicated when traction of from three to five pounds or even the mere correction of the cephalic axis is sufficient to complete delivery; strict axis-traction may then be unnecessary. If, for this or any other reason, it is determined not to use the axis-traction attachment it is still possible with this forceps to make traction approximately in the pelvic axis without the adoption of any difficult maneuver. By grasping the handles from below, the forearm is readily placed almost in the exact axis of the blades and makes traction accordingly.

16. Wide range in the line of traction, without axial movement of the blades and consequent friction and abrasion of fetal and maternal tissues. In changing the line of traction with the ordinary forceps the axis of the blades follows that of the handles. The results of this swaying of the blades of the forceps are often observed in abrasions of the fetal tissues, especially near the end of the blades. The line of traction with this forceps, however, is regulated by swinging the axis-traction bar about the end of the handles, and without in the least displacing the axis, either of the handles or of the blades, and consequently without friction or abrasion or injurious pressure of the tissues either of mother or of child.

DISCUSSION.

Dr. E. S. Mead, San Jose, Cal.—It seems to me that however excellent the forceps may be in some respects in helping the traction, they have one anatomic defect. The curve of that forceps is altogether wanting. A forceps to work with facility in my hands must have this curve, especially when you are going to apply them in the interior strait. This curve of the forceps wants to be a great deal more marked.

I do not think it is necessary that we should make such heavy traction, but we should make the traction gradual. Every time the pain comes and every time there is a coming down of the head, the forceps should be re-adjusted. If we do not have an instrument with more curve we wound, necessarily, the maternal tissue. If you can have a forcep made so that the curve exactly corresponds to the curve under the pubis there is no necessity that I see to wound the maternal part. If the forceps are in unskilful hands—I have asked people to assist me in delivery (not me, my patients in delivery), and they put on a pair of forceps, and with great strong muscles that could lift probably two hundred pound dumb-bells, they pull. They seem to think that the only thing to be done is to deliver the child; if they cut off its circulation or bruise the mother, that is a matter of minor importance. That to me is all wrong. It is not brute force that we want; we don't want to make this too strong. I am wonderfully interested in the delivery of children and in the protection of the mother.

Some of the members present have had the fortune, or the misfortune, to see my delivery. I put on a pair of forceps, and they say: "Ain't you going to deliver?" I said: "I am going to wait until there is pain." There is more pain in half an hour, and the child comes. Sometimes the mother is torn, but oftentimes not at all.

I don't like the idea of fixing the handles, as in this instrument exhibited here. When I want to make traction I bring the handles together. I am not a strong woman, but I am strong enough for all the child or woman can bear. It seems to me that it is a lack of anatomic knowledge that destroys so many and makes so many failures.

Dr. Oscar J. Mayer, San Francisco—I think the mechanism as applied to these forceps is directly in opposition to

modern practice and principles of obstetrics. The most improved principle is asepsis. How it can be applied to forceps with so much machinery as this I can not understand.

Another objection to the forceps is their weight. Forceps should be as light as possible. These remind me of some of the older forceps in use. And this handle control I think is entirely unnecessary. Our aim should be not to use brutal force, but intelligent manipulation in expanding, and in rotation of the head in the delivery of the child. I think this forcep will not find much favor with the profession at large.

DR. W. WINTERBERG.—In talking about making that instrument aseptic, my friend Dr. Mayer, evidently forgot that we have sterilizers, and I think it would be very easy to make an instrument like that aseptic. I am in possession of an instrument which will hold that forcep and a whole obstetrical outfit, and all that is necessary to make the total outfit aseptic is to put it in the sterilizer and leave it for a few hours at a certain temperature. I think this is a very nice forcep. I do not object to complication in an instrument, but simplicity is always certainly desirable.

DR. BROWN, California.—I have had considerable experience in obstetrics for the last eighteen years, and I have observed the same objections that Dr. Mead has mentioned. It has not the curve that I like. I have found better success with the old Eclectic or old Philadelphia forceps than any others. I have never had any difficulty with it. I believe that it will fulfil all indications better than any instrument I ever handled.

As far as the complication is concerned of this instrument exhibited here, I can hardly see any objection against that, provided it has all the utilities. But I do think the mechanical shape of the instrument is objectionable.

DR. W. A. BRIGGS.—I will say in regard to the curve of this instrument, that it is really greater than it seems, for the reason that we are all used to the ordinary forceps where the handles instead of being parallel to the axis of the blade are set at quite an angle. This angle makes the blade seem to possess a greater curve than they really have. In these forceps I have measured the curve. I ordered it to be made the same as in the classical forceps; the curve is half an inch less than than that of the classical forceps. But it is a condition more in appearance than in reality.

In the second place, in regard to asepsis, that is not, as Dr. Winterberg has said, dependent upon the instrument itself, but upon the care you take of it and the interest you take in making it aseptic. We do not keep an instrument aseptic, but we make it aseptic. This instrument as easily as any other can be made aseptic by heat. What I believe to be the advantage of this instrument is, the greater area for pressure, and the regulation of the direction of traction, so as to make it come within the the line of least resistance in any possible application of the forceps.

ABDOMINAL PREGNANCY—FULL TERM, COMPLICATED WITH FIBROID OF UTERUS—CELIOTOMY AND REMOVAL OF THE CHILD AND PLACENTA AND ABDOMINAL HYSTERECTOMY.

Read by title in the Section on Obstetrics and Diseases of Women, at the Forty-fifth Annual Meeting of the American Medical Association, held in San Francisco, June 5–8, 1894.

BY W. F. McNUTT, M.D., M.R.C.S. ED., ETC.

PROFESSOR PRINCIPLES AND PRACTICE OF MEDICINE, UNIVERSITY OF CALIFORNIA.

It is not the object of this communication to discuss the various views of abdominal pregnancy—whether it is a primary or secondary condition, that is, as to how the fecundated ovum found itself in the abdominal cavity, nor to discuss the formation of a capsule about the ovum and the development of the blood vessels, nor to refer to the different methods of treatment as to the fetus or to the management of the placenta. This case is reported in the belief that abdominal pregnancy (as distinct from all other extra-uterine pregnancies) is sufficiently rare to justify its being recorded, especially as a living child was removed at full term, and the diseased uterus removed as well.

On August 24, 1893, I was called across the bay by Drs. Payne and Hirshiser, to see Mrs. D., age 34; she had gone to nearly or quite her full term, when she was taken with abdominal pains similar to those of labor pains, with active delirium. Mrs. D. had been delivered of a child seventeen years before, had not been pregnant since till now. Had been in fairly good health while carrying the child and had spent most of the summer at the World's Fair, Chicago. I saw her late in the afternoon; she had then been delirious for thirty-six hours, with a good deal of abdominal pain. The bed had been quite saturated with water which was supposed to have been due to the rupture of the membranes. The child's head was thought to have been felt at the brim of the pelvis; the cervix while soft was as long as an unimpregnated cervix, though the abdominal walls were contracted. The child could be felt very distinctly by abdominal examination. This was then late in the evening; I advised giving the woman rest for the night, and that I would return in the morning. Not being able to go over in the morning, I sent Dr. Winslow Anderson, and asked him to carefully examine her per rectum, with the view of ascertaining if what was thought to be the child's head, might not be uterine fibroid, and the case was probably one of abdominal pregnancy. Dr. Anderson examined her carefully, with Dr. Payne and Hirshiser, and telephoned me to come over with instruments, feeling quite sure it was a case for operation. On my arrival we chloroformed her and opened the abdominal cavity, where I found a living ten pound child, loose in the cavity, not encased in membranes. Lifting the child out and having tied the cord I found the placenta a large one, attached along the margin of the right broad ligament and to the peritoneum, and over the ascending colon nearly to the liver. I detached it rapidly; the hemorrhage was profuse, and would have been greater, had not Dr. Anderson controlled the ovarian circulation. It soon ceased after the placenta was detached and a couple of ligatures used, one included in the ovarian artery. We found a large fibroid of the uterus, which had been taken for the child's head at the brim of the pelvis. Thinking it best not to close the abdominal cavity with such a fibroid, I removed the uterus. As the fibroid involved the lower portion of the body and the upper portion of the cervix it was not possible to make a Porro and the whole uterus was removed. When coming out from under the influence of the chloroform, the woman resumed her delirium, showed no evidence of shock, but died forty-eight hours after.

The cause of the delirium was a question of great interest, as the membranes had ruptured, the child escaped from the sac and there was no fluid in the abdominal cavity. Had the absorption of the amniotic fluid by the peritoneum been the cause of the delirium, or had the fluid escaped by the tube, or had the fluid that had wet the sheets been from the bladder?

POMPOUS WORDS IN MEDICAL LITERATURE.

BY EDMUND ANDREWS, A.M., M.D.
SENIOR SURGEON OF MERCY HOSPITAL, CHICAGO.

A good literary style is as important in medicine as in any other kind of writing.

One feature of good style demanded by all standard critics, is that the sentences shall be expressed in simple, pure, crystalline English, and consist mainly of short Anglo-Saxon words, loaded as little as possible with pompous polysyllables of Latin and Greek derivation.

James Russell Lowell laments our inferiority to English writers in this respect. He says: "It has long seemed to me that the great vice of American writing and speaking is a studied want of simplicity." Whether it be for want of culture—for the highest outcome of culture is simplicity, or for whatever reason, it is certain that very few American writers or speakers wield their native language with the directness, force and precision that are common as the day in the mother country. While the schoolmaster has been busy 'starching' our language and smoothing it flat, the newspaper reporter has been doing even more harm by stretching and swelling it to suit his occasions."

Short Anglo-Saxon words of common, daily use are to be preferred wherever they will express our meaning. It is this choice of short words, resulting in a condensed style of singular force, which gave the plays of Shakespeare and the English translation of the Bible much of their irresistible power.

Generally English medical men have kept much nearer to this strong style than Americans.

It is amusing, but vexing, to find a worthy medical gentleman, who talks in a pure and simple style among his friends but who, on taking up his pen to write a book or an article, changes his whole dialect, and fills his pages with a jangle of harsh technical terms, two-thirds of which are not needed to express his meaning.

Technical terms can not be altogether avoided, but they are a necessary evil, and should be reduced to a minimum and never lugged in without necessity. If employed in the least excess they make the sentences obscure, harsh and weak, and give them an intolerable air of pompous stiffness.

After examining an injured gentleman, the surgeon perhaps announces to his family that he was thrown sidewise from his carriage, breaking both bones of his leg and putting his ankle out of joint. This is a simple, clear and dignified statement. Now if he reports the case in a medical journal, why should he get up on his stilts and say: "The patient being suddenly projected transversely from his vehicle, fractured the tibia and the fibula, and luxated the tibio-tarsal articulation?" Perhaps he thinks he has made his statement in a high-toned, or at least a high-flown literary style.

Akin to the literary sin of too much technicality of language, is the error of overloading the speech with Greek and Latin derivatives. Not that they are forbidden, but good style requires them to be used as sparingly as possible.

These languages being of a very different type from our own, their derivatives rarely work in harmoniously with pure English sentences, and their harshness and their polysyllabic complexity make them serious blemishes in our style. For some curious reason, it is the half educated man who dotes most on these big words, whenever he displays himself in writing.

His old catheter never has an eye nor a hole in it, but a fenestrum. He does not have instruments but an armamentarium. He does not disinfect them by boiling, but by immersion in water elevated to the temperature of ebullition. He never distinguishes diseases from each other, but he differentiates or diagnosticates them. His patient's mouth is an oral cavity and his jaw a maxilla. If the eye-lids are adherent, it is a case of ankylosymblepharon, and if there is a stone in the bladder it is an intra-vesical calculus. He never sees any bleeding, but only hemorrhage, or sanguineous effusion.

In sewing up a wound he makes, not a seam, but a suture, and often he blunders, as some good authors do, by calling each separate stitch a suture.

If he discovers wrinkles on the skin, they are corrugations. He never examines a limb by touch, but always by palpation. If he finds it hopelessly diseased, he deems it far beneath his dignity to cut it off, but is quite ready to amputate it.

There is something admirable in the sturdy contempt of our English brethren for all mere word pomp and prudishness. In London the most fashionable avenue for horseback exercise is still called "Rotten Row" from decayed houses anciently there, but long since gone.

The English surgeon has the same spirit in him. He cares for the thing to be done, and not for its phraseology. He takes his trochar and taps a dropsical belly, while the American blushes up to the roots of his hair to hear such plain speech from his British brother. He will not imitate him—not he, but he goes out straightway and performs paracentesis abdominis for intra-peritoneal effusion.

However, the pompousness is not all on our side of the ocean, and it is refreshing to see an occasional touch of it beyond the seas, just to show that we are not the only sinners in this matter.

An eminent British surgeon explains himself as follows:

"Septic peritonitis, save where definable from evidence wholly extrinsic to the condition of the peritoneum, is an etiologic entity which exists only in the mind of the pathologic metaphysician."

This is about as bad as anything ever written on our side of the water.

Our American authors have from time to time brought out many valuable researches and discoveries, but usually in a very defective style. Let us hope that the time is near when they will learn to wield our native language with that purity, simplicity and force which always commands the respect of the world.

2520 Prairie Avenue Chicago.

BOOK NOTICES.

A System of Genito-Urinary Diseases, Syphilology and Dermatology, by various authors. Edited by PRINCE A. MORROW, A.M., M.D. Illustrated in three volumes. 8vo, cloth. Vol. iii, Dermatology. New York: D. Appleton & Co. 1894.

In our review of the second volume of this "System" (JOURNAL AMERICAN MEDICAL ASSOCIATION, Vol. xxi, p. 782) we took occasion to say that it surpassed any recent work on the subject; we can also compliment the author on this handsome volume. The illustrations are excellent, and the

typography good. There is some unevenness in the work of the different writers and some lack of uniformity, but the book as it stands is a valuable contribution to dermatology. Twenty-seven well-known authors have contributed. The volume begins very appropriately with a section on the anatomy and physiology of the skin by Dr. Heitzman, of New York. This chapter, which in truth should be studied more carefully than any other, is—alas for the weakness of human nature—likely to be glanced at instead of read, but much confusion of mind would be obviated, concerning all branches of medicine, if more attention were paid by practitioners to anatomy and physiology. We note with pleasure that the decimal system of prescription writing has been followed by some of the writers, and many prescriptions are given in both the old style and the metric. In classification Dr. Morrow has followed with few changes Crocker's modification of Hebra's system. The placing of the exanthemata (scarlet fever, smallpox, chickenpox and measles) among the skin diseases seems to us of questionable propriety.

One of the chapters in the work which will be found of general interest as well as to the specialist, is the one by Dr. Morrow on leprosy. The author is a firm believer in the inoculability of the disease and he cites many cases to prove it. The well-known case in point of Father Damien (of whom a photograph is given) is cited in full. He recognizes, however, that leprosy is communicated mainly through the respiratory and intestinal tract, with secondary infection through the lymphatic system.

We commend this volume as a fitting companion to its two predecessors, and a creditable addition to the literature of American medicine.

Micro-Organisms In Water. Their significance, identification and removal, together with an account of the bacteriogic methods employed in their investigation. Specially designed for the use of those connected with the sanitary aspects of water supply. By PERCY FRANKLAND, Ph. D., B. Sc. (Lond.)., F. R. S., Associate of the Royal School of Mines, Fellow of the Institute of Chemistry, etc., etc., and MRS. PERCY FRANKLAND. 8vo. Cl., pp. 532. London: Longmans, Green & Co. 1894.

Anything written by a Frankland is authoritative on the subject of which it treats, and this book will doubtless take rank in the same class with Edward Frankland's "Water Analysis." The book gives in detail those methods of bacteriologic study, which are applicable to the examination of water, in which both engineers and health officers are practically interested, not less than students of bacteriology.

The work is divided into nine chapters. Chapter I. On sterilizations and preparations of culture media; II. Staining and microscopic examination of microörganisms; III. Examination of water for microörganisms; IV. Bacterial contents of various waters; V. Purification of water for drinking purposes; VI. On multiplication of microörganisms; VII. Detection of pathogenic bacteria in water; VIII. Vitality of particular pathogenic bacteria in water; IX. Action of light on microörganisms in water and culture media.

The appendix contains a valuable descriptive table of the various microörganisms found in water.

No more valuable contribution to bacteriology has been made for a long time, and pathologists will therefore find the book very instructive to them, not less than to those pursuing other branches of the profession.

Saint Bartholomew's Hospital Reports. Edited by W. S. CHURCH, M.D., and W. J. WALSHAM, F.R.C.S., Vol. xxix. 8 vo. Cloth. Pp. 410, and appendix 108. London: Smith, Elder & Co. 1893.

The volume opens with an account of the "Martha" Ward, by Harrison Cripps, and there are several noteworthy contributions among many excellent ones. Mr. W. Morrant Baker proposes the removal of contiguous teeth, to relieve the pain in the tongue in certain cases of cancer. Sir Dyce Duckworth dissents from the common view that the "*Taches bluâtres*" observed in fever cases are due to pediculi. Mr. Chas. A. Parker has an interesting article with a statistical table, on "Nasal Breathing in Nasal Obstruction." There is an instructive paper by Dr. Edmund Cautley on "Irregularity of the Heart." There is a complete index and a full statistical report of cases treated in the Hospital; altogether the volume is fully equal in value to those of the series which have preceded it.

Charaka-Samhita. Translated into English. Published by Avinash Chandra Kaviratna. Calcutta. Part ix.

We have heretofore commented on the value to the history of medicine of this wonderful book, (See JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Sept. 23, 1893, and April 21, 1894) probably the oldest medical book in existence. The following is an abstract of the contents of the Ninth Fasciculus:

In Lesson XXIII are explained the incidents relating to Santarpana or indulgence in food and acts that is both sedative and nutritive. The diseases that arise from such indulgence are enumerated, such as diabetes, itches, etc. The treatment is then laid down that it is advisable for persons afflicted with diseases due to such indulgence. The remedies in the form of indulgence, in excess, in food and practices which are the reverse of Santarpana, are called Apatarpana. The diseases due to Apatarpana are then enumerated, together with the remedies that are advisable to be administered.

Lesson XXIV treats of the nature and characteristics of the blood. What generates pure blood is explained. It is pure blood that brings about strength and complexion and the happiness of health. How the blood becomes impure. The diseases that are due to impure blood are enumerated. The treatment is expounded of diseases due to impure or vitiated blood. The respective indications of blood when it is vitiated by wind, bile, and phlegm, separately or in combination. The indications of pure blood. Vitiated blood leads to insanity, swoons, and apoplexy. The indications of these diseases are set forth in detail. The treatment to be followed in these respective diseases.

Lesson XXV is devoted to the discussion of the various theories of the creation of man. This discussion contains the essence of the different systems of Hindu philosophy in respect to the cosmogony of the world and living creatures. The objections to each system are also explained. The unutility of such discussion is shown. The use of beneficial food is the cause of the growth of a person; while that of food that is injurious is the cause of disease. What constitutes beneficial food and what constitutes food that is injurious. The regulations about diet are set forth in detail. The different classifications of food depending upon different considerations. A detailed enumeration of the qualities of those substances are used as food. The observations on diet, it will be seen, are extremely interesting.

International Clinics. A Quarterly of clinical lectures on Medicine, Neurology, Pediatrics, Surgery, Genito-Urinary Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Otology and Dermatology. By professors and lecturers in the leading medical colleges of the United States, France, Great Britain and Canada. Edited by JUDSON DALAND, M.D., Philadelphia; J. MITCHELL BRUCE, F.R.C.P., London, England; DAVID W. FINLAY, M.D., F.R.C.P., Aberdeen, Scotland. Volume xi. Fourth series. 8vo. Cl. Philadelphia: J. B. Lippincott & Co. 1894.

This volume is a continuation of the interesting series. There are forty-four separate articles, but as many of the clinics are reproductions of what was said and done at college clinic amphitheaters, they represent a great variety of cases.

These clinics, then, not only represent what the authors *say* about cases, but it represents what they *did* in all cases where manual procedures were required. The work is fairly illustrated, but much more might be done in this direction to make the book more useful to those of its readers engaged in active practice.

Practitioners desirous of keeping pace with the methods of our clinical teachers can not well afford to do without this serial, which in the course of a year, covers most of the diseases and injuries to which mortal flesh is heir.

One Hundred Years of Business Life—1794-1894. New York: W. H. Schieffelin & Co.

The story of the rise and progress of a great commercial house must always interest the historical student for it throws a sidelight on passing events, many of which would otherwise escape notice. To the medical profession this book will have a double interest, for not only will it have for it the historic motive, but as well the acquaintance of a firm with whom three generations of medical men have had pleasant business relations. The appendix consists of a scholarly review, "one hundred years of chemistry and pharmacy." And as well known, in the progress of the pharmacy of this country, this firm has long borne an honorable and prominent part. The book is handsomely illustrated.

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SATURDAY, AUGUST 18, 1894.

WORK OF THE ANTI-VACCINISTS.

Among other trials and afflictions which delay the advent of the municipal millennium in the city of Milwaukee, is to be numbered an Anti-Vaccination Society, which has been manifesting a most pernicious activity for the past two years.

The usual results have followed.

Its efforts among the ignorant and easily deluded elements of the population have aroused a determined opposition to the measures of protection sought to be enforced by the City Health Department in the presence of a threatened invasion of smallpox. The Society has preached its regulation doctrine of the terrible results of vaccination and the comparative beneficence of smallpox; that compulsory vaccination is a violation of the sacred rights of the person; that the exclusion of unvaccinated children from the public schools is an invasion of parental authority; and has counseled physical resistance to health officers and aided and abetted legal proceedings against school directors in furtherance of its propaganda of free smallpox.

In common with many other large cities of the country, Milwaukee has recently had its share of smallpox cases; but, except in the localities where the anti-vaccinists have secured a following, the Health Department has been able to control the disease. In such localities the people—mainly aliens unable to distinguish between liberty and license and resentful of any exercise of constituted authority—have not only resisted vaccination but, taught to ignore the infectious character of smallpox, have gone freely among those suffering with the disease, in defiance of quarantine and isolation, and have thus caused such an increase and extension of the outbreak as to lead the State at large to demand that the State Board of Health shall declare Milwaukee dangerously infected and order quarantine against communication with the city.

Still another feature of the labors of the "antis" in the interest of unrestricted smallpox has been the fomenting and fostering of a sentiment hostile to the hospital treatment of the disease. Gross misrepresentation of the hospital administration, exaggeration of defective conditions and vilification of officers and employés culminated recently in a riot, in which it is alleged a mob of 3,000 excited men and women resisted the attempted removal of patients, and a score of rioters and half a dozen policemen were injured. Mass meetings have been held at which the Health Department has been bitterly denounced and a demand made that the Mayor interfere to prevent further removals to the hospital, and cause the hospital itself to be abolished—a demand which was timidly yielded to so far as to cause a temporary suspension of removals.

All of which has redounded to the disgrace of the fair name of the city and to the serious injury of her commercial interests, and all of which is to be charged to the anti-vaccinists and their work.

Fortunately, the health administration of the city is in good hands; DRS. WINGATE and KEMPSTER—the former until recently, and the latter the present Health Commissioner—have proved themselves to be well-equipped sanitary executives, prudent and conservative but courageous and firm in the discharge of duty. They possess the confidence of the health authorities of neighboring cities and States, and have thus been able to avert unnecessary restrictions upon the travel and traffic of the city. DR. WINGATE, as Secretary of the State Board of Health, has secured the coöperation of the railroads with the Milwaukee Health Department and with local health boards, in a system of inspection and supervision of railway travel to prevent the dissemination of the disease throughout the State or beyond its borders. Health Commissioner KEMPSTER, who estimates that one-third the children of the city are unvaccinated as a result of the efforts of the Anti-Vaccination Society, is pushing vaccination vigorously and extending hospital facilities—as well to meet future contingencies as to remove ground for present opposition.

The occasion should be utilized for the permanent remedy of certain evils arising from municipal parsimony—in neglecting to provide a properly located and adequate isolation hospital for contagious diseases. It has been heretofore demonstrated in these pages that the hospital treatment of smallpox affords the patient a better chance for recovery than treatment at home—to say nothing of the advantages accruing to the community from the thorough isolation of cases which only the hospital can secure.

But other things must be equal. It goes without

saying that compulsory removal to hospital is justifiable only when the hospital environment is at least as healthful as that from which the patient is removed; in the matters of abundant ventilation—and of hospital ventilation it has been aptly said that "too much is little enough"—in skilled nursing and in expert medical attendance the hospital should excel the home. Owing to false ideas of municipal economy this is not always the case; the belief seems to be that anything is good enough for an isolation hospital, and appropriations for its establishment and maintenance are, as a rule, given grudgingly and grumblingly.

The Health Department of Milwaukee should make the most of its present opportunity to secure what is coming to be recognized as the measure not only of a city's sanitary status but of its civilization—a properly constructed and adequately maintained isolation hospital for the reception and treatment of cases of the contagious diseases. If this shall be another one of the results of the work of the anti-vaccinists, it will go far to solve the present mystery of their creation and existence.

THE BRITISH MEDICAL ASSOCIATION.

The British Medical Association met in Bristol at its last session, exactly thirty-one years after its former meeting in that city, and the *British Medical Journal* of August 4 says:

"The British Medical Association again meets in Bristol, on this occasion under the accomplished and able presidency of DR. E. LONG FOX, Consulting Physician to the Royal Infirmary. This is the third occasion on which the capital of the West has hospitably received the Association. It met there for the first time in 1833, shortly after the formation of the Association. The number of members of the Association was then a little more than 400, while the attendance ran up to 200. It is curious to note that at present, when the Association numbers upwards of 15,000, the attendance at an annual meeting so interesting as this is not expected to amount to a proportion of as much as 5 per cent. of the total number of members as compared with 50 per cent. in the earlier days of the Association. Further, the general business was then conducted in the presence of nearly the full number of attending members, while on the present occasion the most important part of the business can only command the attendance, out of the 900 members in the town, of from 30 to 40 in the body of the hall, and, including the members of Council on the platform, of between 50 and 60 in all—a smaller number, in fact, than goes to make up an ordinary well-attended meeting of any of the larger branches when similar subjects are under discussion. The fact appears to be that for all discussions of a political or business character the center of interest is displaced from the annual meeting, which mainly concerns itself with scientific discussions in the Sections and the hearing of the annual addresses, to the branch meetings. The branches have now become the main centers and determining power in the solution of the social and administrative problems with which the Association concerns itself. This decentralization of power and the localization of such discussions in the cities and the counties which are the seats of the branches is in full accord with the democratic spirit of the times and the democratic constitution of the Association. Inasmuch as the executive body of the Association is elected by the branches, each assembled in its own seat of residence, and is constituted of their representatives, the reports of the Council and its committees, when approved by it, are really the authentic records of executive acts and administrative opinions derived from the true source of power in the Association—the wishes of the members as expressed by their elected representatives."

The record of the proceedings of the general sessions reads so like a leaf from the proceedings of our own beloved ASSOCIATION, as to bring a tear to the eye. We read, following the report of the Treasurer:

"SURGEON-MAJOR INCE moved the following amendment:

'That this meeting regrets the great and growing increase in the annual expenditure as compared with the income of the Association, and suggests to the Council the expediency of a careful and substantial reduction thereof in all departments, especially in the matter of the editorial and office expenses, which appear out of all proportion to the needs and nature of the *British Medical Journal*.'

"DR. INCE commenced by a criticism upon the *Journal*, which he said was not the golden article it had been represented to be. The tone of some articles he considered as undignified, often vulgar. He objected, for example, to a leading article written upon the HARNESS case, and in response to cries of 'Read, read,' he quoted sentences from the article in which HARNESS was referred to as— (cheers and cries of 'hear, hear!')—'that champion impostor,'—(renewed cheers)—'this egregious quack,'—(hear, hear)—the sentiments contained in the quotations being apparently warmly indorsed by the audience. DR. INCE would leave MR. HARNESS and pass on to criticise an article headed, 'A Superior Person, and the Journalism of the Future,' which appeared on January 28, and which he described as 'arrogant and satirical.' The *Journal* was outdone in size by the *Lancet*, which contained 3,212 pages of reading matter last year as against 3,024 in the *Journal*, or 188 pages in excess. He commented on the 'undisguised personality' of the editor of the *Journal*. MR. ERNEST HART, in his last year's address on journalism, had spoken of 'modesty and self-effacement.' He added that he thought that would 'fetch them.' With regard to the financial statement, he complained that it was meager. There was no statement of the investments, while their furniture was put down at its cost, without any allowance for depreciation. There was something wrong in the accounts. He absolved the Treasurer in every way. MR. BUTLIN was reappointed last year at his (DR. INCE'S) suggestion, and he had the fullest confidence in his integrity, his probity and discrimination. There was, however, still room for retrenchment, and it was a great mistake not to allow individual members who were desirous of doing so to inspect the accounts. One item that should be cut off immediately was the expense incurred by the peregrinations of their editor. DR. INCE having by this time somewhat exhausted the patience of his audience, was called upon to conclude, which he did by moving the resolution.

"After a long pause, MR. BRINDLEY JAMES seconded the amendment."

And then the *Journal* was ably defended, (as if it needed any defense!) by DR. BRIERLY, MR. BUTLIN, and the veteran editor, MR. ERNEST HART, after which the mover withdrew the resolutions. All of which took up about two hours time of the general sessions; but the *Journal* had been attacked, and the assailant duly defeated; both sides having thus done their full duty the business of the session was resumed.

THE NECESSITY FOR WORK.

This year the members of the ASSOCIATION should make extraordinary efforts to increase the membership and swell the subscription list of the JOURNAL. A little personal effort will accomplish great things. The only ASSOCIATION in our country having direct connection with the State medical societies of the Union, there can be no question of its representative character.

Membership is now practically unlimited by any technical barrier, and every principle of patriotic pride should urge us to have one of the strongest medical associations in the world. We gained largely at San Francisco by the accessions from the Pacific coast; let us hold fast to what we have gained, by every member promptly remitting his annual subscription. Our ASSOCIATION would long ago have had ten thousand members if it were not that by sheer inattention many of those who join at these annual meetings allow their membership to lapse.

The JOURNAL was greatly enlarged last year, and it will soon move into better quarters, and be printed on its own presses. It will be a source of pride to the members to know that, notwithstanding the gloomy prognostications made after the Milwaukee meeting, by certain critics, the affairs of the JOURNAL were never more flourishing, or its prospects brighter, but it must not lag in the race. "A strong pull, and a pull all together," will soon bring the ASSOCIATION and its JOURNAL to a fair and friendly rivalry with the British Association, whose continued prosperity excites our highest admiration.

AS IT STRIKES THEM IN FRANCE.

M. MARCEL BAUDOUIN, of *Le Progrés Médical* also makes merry over the fact commented upon in the JOURNAL of June 30, under the heading, "Is This a Sanitary Utopia?" In a recent number of his lively journal he says it becomes his duty "to record a sufficiently extraordinary fact; one that is, most assuredly, not on the point of being at once reproduced in France"—that is, the establishment of systematic courses of instruction in sanitary science for the members of the German Legislature. M. BAUDOUIN says:

"In Paris we have, it is true, a course on social hygiene at the *Hôtel de Ville;* but PROFESSOR A. J. MARTIN would astonish us mightily were he to write us that his habitual audience included the majority of the Municipal Council! Can you fancy seeing PROFESSOR PROUST holding forth at the *Palais-Bourbon?* When he is obliged to speak there as a Commissary of the Government he is listened to for a little while at least, because he knows how to manage the most refractory of audiences. But does any one suppose for a moment that were he not speaking on behalf of electors, large numbers of the people's representatives would think it worth while to come and wear out their trousers on the benches of the dynamited hall, under the pretence of learning how to avoid infecting Paris with dirty water? What would thenceforth become of the famous interpellations, with a similar caliber to those of the *Seine-et-Oise* Deputies?"

He facetiously closes—"A post to be filled of which I had not dreamed: Professor of Deputy's Hygiene! I claim it, if, peradventure, it be not already bespoken. Berlin is an amusing place; one does not there get bored!"

There are other countries, it may be remarked, whose legislators need instruction in public health matters more than do those of France. In a late issue (July 21) we recounted the formation of an extra-Parliamentary committee of physicians, members of the French Parliament, to investigate pending questions relating to the profession, to poor-relief organization and to the protection of the public health. Among the twelve Senators and twenty-two Deputies who participated in the formation of this committee were many of equal celebrity in medicine and hygiene with those who are lecturing to the German Legislature, and *Le Progrés* itself announces the recent election of another medical man, DR. MARFAN of the Aude, to the Chamber of Deputies, and the appointment of DRS. LOURTIES and VIGER to the French Cabinet—the former as Minister of Commerce.

The recognition of medical men and medical matters in the British Parliament is too well known to need more than mention, and in Italy and elsewhere on the Continent the profession exerts an important influence in matters of legislation and the affairs of government.

CORRESPONDENCE.

LETTER FROM WASHINGTON.

Tenure of Medical Offices—Health Officer—Sanitary Affairs—Other Matters.

WASHINGTON, D. C., Aug. 4, 1894.

To the Editor:—The Commissioners of the District of Columbia have adopted a rule limiting the term of service of police surgeons, physicians to the poor, and health officer to three years. Heretofore there has been no limitation to time of service—the new rule does not prevent re-appointment to office.

Dr. C. M. Hammett, who three years ago succeeded Dr Smith Townshend as Health Officer, tendered his resignation to the Commissioners on July 31, and it has been accepted. Dr. Hammett has been a successful practitioner in this city for twenty-five years and is a very accomplished gentleman. During his term of service in the health office he had many opportunities to exhibit his skill and judgment which he always did to the entire satisfaction of the profession and the public. He greatly improved the system of medical care of the poor, re-arranging the districts and filling all vacancies in the staff with physicians of the highest ability. His kindness and courtesy will always be remembered by those who had business with his office. He was, upon acceptance of his resignation, appointed to the office of Coroner.

Dr. W. C. Woodward who for the past few months had the office of Coroner, resigned and was appointed Health-Officer to succeed Dr. Hammett. He is a graduate of the

Medical Department of the Georgetown University, Class of 1889, and late Resident Physician in the Emergency Hospital, is very popular as a physician and will have an opportunity to distinguish himself in his new position.

The conference report on the appropriation bills for the city is agreed to and contains a number of interesting matters. One thousand dollars is allowed for horse hire and expenses of Coroner's Department, with salary of $1,800.

The additional appropriation of $60,000 proposed by the Senate for the collection of garbage was stricken out, and a clause inserted requiring the Commissioners to specially investigate the best methods of collecting and disposing of garbage, and to receive proposals under such methods and report the result at the next session of Congress. The Senate amendment legalizing the ordinances of the late Board of Health of the District was agreed to.

For work on the receiving reservoir of the aqueduct $52,500 was provided, and the requirement inserted that the work shall be completed within the fiscal year, at a cost of $90,000. For protecting the conduit at waste weir No. 1, $5,000 was provided.

The emergency fund of the District was increased to $25,000, and the fund for the support of convicts fixed at $25,000.

For transportation of paupers $3,500 was provided.

The item of $1,710 for a new family building for the Reform School for boys was omitted and the Senate amendment was stricken out, which transfers the management and control of the Reform School to the Commissioners.

It was provided that not exceeding $300,000 of the surplus revenues of the District on July 1, 1894, shall be applied to the payment of the principal of the debt incurred for increasing the water supply. The Senate item of $1,000 for five members of the plumbing board was omitted. The Superintendent of Charities received a messenger at $840.

An appropriation of $165,000 was provided for assessment and permit work, and the Senate provision regulating such work was retained.

For relief sewers and replacing obstructed sewers, $65,000 was agreed upon, and for main and pipe sewers, $90,000. Authority was granted to enter into a contract for the construction of the Rock Creek intercepting sewer at $80,000, and $20,000 was appropriated to commence the work. The provision of the House concerning the paving of streets between the rails and tracks of street railways was omitted. The Senate amendment requiring fenders on street cars was retained.

The Senate provision concerning the condemnation of lands through the Prospect Hill Cemetery for the extension of North Capitol Street was retained.

For sweeping, sprinkling and cleaning streets $137,500 was provided, and the Senate provision that $5,000 of the amount may be used in the suburbs was omitted. The appropriation for gas and electric lighting was fixed at $190,000, the price for street lamps fixed at $20.50 per annum and electric lamps at 40 cents per night.

The bathing beach received $1,000, and the public pumps $4,000.

The disputed charities appropriations were agreed upon as follows: For the Emergency Hospital, $12,000; for an addition to Columbia Hospital, $10,000; for the National Homeopathic Hospital, $8,000; for expenses of the Girls' Reform School, $9,425; for child-caring institutions and the board of children's guardians, $56,500. The provision of the Senate placing the management and control of the Freedman's Hospital under the board of incorporators was stricken out.

The recent ruling of Attorney-General Olney to the effect that the entire direction and control of the Freedman's Hospital and Asylum is vested in the Commissioners by virtue of the act of Congress making appropriations for the past fiscal year, grew out of a question as to whether the transfer from the jurisdiction of the Interior Department extended to general control or only contemplated supervision of expenditures.

Superintendent of Charities Tracey, in his last report, recommended that the transfer of the institution to the jurisdiction of the Commissioners be completed, he being of the opinion that the clause in the appropriation act only contemplated supervision of expenditures.

The Attorney-General's recent opinion, however, holds that entire control was necessarily contemplated, and in view of this opinion no further legislation is necessary. In speaking of the appropriations for charities in the District appropriation bill, now in the President's hands, Col. Tracey expressed himself as entirely satisfied with the sums allotted, as in every instance the amount appropriated is identical with his recommendations.

For the enforcement of the provisions of an Act entitled "An Act to prevent the spread of scarlet fever and diphtheria in the District of Columbia," approved December twentieth, eighteen hundred and ninety, four thousand dollars.

That the ordinances of the late Board of Health of the District of Columbia, as legalized by joint resolution of Congress, approved April twenty-fourth, eighteen hundred and eighty, be, and the same are hereby, declared to have the same force and effect within the District of Columbia as if enacted by Congress in the first instance, and that the powers and duties imposed upon the late Board of Health in and by the said ordinances, are hereby conferred upon the Health Officer of said District, and that all prosecutions for violations of said ordinances and regulations shall be in the police court of the District of Columbia in the name of the said District: *Provided*, That said regulations shall not be enforced against established industries and the carrying on of any business therein mentioned, which is not a nuisance in fact.

H. L. E. JOHNSON.

A Word for the General Practitioner.

To the Editor:

"What the General Practitioner Should Know About Eye Diseases."

The above title has appeared at the head of numerous articles by as many authors within the last few years. It has recurred with such frequency as to nauseate the one for whom it was intended. A careful analysis of the articles ofttimes reveals a stupendous amount of ignorance and inexperience, either or both of which are reprehensible. They begin something after this fashion: "The object of this paper is to instruct the general practitioner what diseases and conditions of the eye he should send to an oculist and what the oculist is willing that the general practitioner shall treat." Then will probably follow a rehearsal of some cases where a general practitioner is held up to public view because of an error of diagnosis and treatment. Fortunately these cases are very rare in the oculist's practice, if from the practice of thoroughly informed physicians. They are too common if from the practice of those Ishmaelites, the itinerant and advertising quack. The articles above referred to then deal with the different diseases of the eye sometimes very elaborately, and before one is through reading them he is impressed with the irresistible conclusion that it is not safe for a general practitioner to treat any eye disease, and that he had better send all eye cases to the author of the article for treatment; for these articles are not primarily intended to be read by oculists, but by general practitioners and for this reason they very rarely appear in journals devoted exclusively to ophthalmic science, but in

journals which the general practitioner is most likely to read. These articles subserve no good purpose in advancing the progress of ophthalmic science. They are written, as Dr. Joseph Eastman said, in the Section of Gynecology at the last meeting of the AMERICAN MEDICAL ASSOCIATION, like the tariff bill "of these Democratic Senators, a tariff for revenue only."

The time has come when the better class of oculists should cry out against this debauchery of ophthalmic science. This advice will apply to all specialties. The attempt is to narrow the field of usefulness of the general practitioner until the only recourse for him will be to make a specialty of general practice. Because operations have been rendered easy and comparatively successful, specialists have often become egotists. No doubt this spirit of egotism has prompted the publication of the articles above mentioned.

The well-informed general practitioner can often teach a specialist more in a minute than the specialist can teach him in an hour. The great advances in ophthalmic science within the last fifty years have been due very largely to the general practitioner. Some of the most valuable hints, those hints which often do more for a surgeon's reputation than the most formidable operation he may perform have come to us from general practitioners. You perhaps have never seen in a text-book on the eye that when a foreign body is lodged under an eye-lid, by rubbing the other eye it will often be dislodged and removed, and trouble the eye no more forever. The rhinologist perhaps has never read in a text-book of laryngology that an acute coryza may be very quickly and efficiently broken up by the inhalation of the fumes of iodin crystals placed in a bottle. These valuable hints were given the author by a prominent practitioner of this place whose modesty has prevented him from writing a lengthy article advising the specialist what he should know of general practice. Very many other hints might be given similar to the two above.

All honor to our general practitioners. May their shadows never grow less. May the bulk of their knowledge on eye diseases continually increase. May the size of their pocket book be more plethoric. May those who limit their practice exclusively to a certain disease, because of *circumstances not their own*, reverence the general practitioner, the old-fashioned family physician, whose skill has pulled us through many rough experiences on beds of pain. It is to be wondered at why general practitioners have not filled the pages of our medical journals with articles entitled thus: "WHAT THE SPECIALIST SHOULD KNOW OF GENERAL PRACTICE."

GEO. F. KEIPER, M.D.

SOCIETY NEWS.

Twelfth International Medical Congress.—The next International Medical Congress will be held in Moscow, Russia, in August, 1896.

Medical Society Missouri Valley.—The annual meeting of the Medical Society of the Missouri Valley will be held in Council Bluffs, Iowa, Thursday, Sept. 20, 1894.

Medical Society of the State of West Virginia.—The Medical Society of the State of West Virginia convened in its twenty-seventh annual session at Berkeley Springs, W. Va., July 10 and 11. Ten new members were admitted to the Society, making a total of 221. President R. W. Hazlett delivered his annual address. The following papers were read:

"New Remedies," by Dr. E. H. Fravel; "The Prevention of Consumption," by Dr. N. D. Baker; "The Prevention of Tuberculosis," by Dr. A. S. Maddox; "A Synopsis of Practical Bacteriology with Demonstrations," by Dr. J. Schwynn; "A Plea for the Old Physician," by Dr. C. F. Ulrich; "Antiseptics in Normal Labor," by Dr. W. P. Hogue; "A Witness in Court," by Dr. D. P. Morgan; "O'Dwyer's Operation, with Report of Three Cases," by Dr. R. H. Cummins; "The Influence of Bacteriology upon Surgical Practice," by Dr. R. J. Reed; "Legislation for the Prevention of Blindness," by Dr. G. A. Aschman.

Resolutions attached to the above paper, similar to those adopted by a number of other State societies for the prevention of blindness, were unanimously adopted and referred to the Committee on Legislation.

Dr. J. D. Myers, of Huntington, informed the Society of his intention of issuing a monthly medical publication, *The West Virginia Journal of Medicine and Surgery*.

The following officers were elected for the ensuing year:

President: Dr. D. Mayer, of Charleston.

Vice-Presidents: First District, Dr. R. H. Cummins, of Wheeling; Second District, Dr. C. S. Hoffman, of Keyser; Third District, Dr. V. T. Churchman, of Charleston; Fourth District, Dr. W. S. Keefer, of Parkersburg.

Secretary: Dr. G. A. Aschman, of Wheeling.

Treasurer: Dr. J. A. Campbell, of Wheeling.

Next year's meeting will be held at Elkins, W. Va., and Dr. B. M. Smith was appointed Chairman of the Committee of Arrangements. The exact date will be left to the decision of the officers.

PUBLIC HEALTH.

Cholera Disinfection.—Inasmuch as all researches on the subject go to prove that the cholera bacterium dies at 50 degrees C., and very quickly at 70 degrees C., and seeing that a mixture of one part of choleraic matter with ten of boiling water preserves a temperature of not less than 85 to 55 degrees for an hour (which is long enough to kill the stoutest cholera microbe), Dr. Valaeff, after thorough experiment, proposes to disinfect cholera stools by means of boiling water, which can be procured pretty nearly everywhere. Instead of being placed in corrosive sublimate solution, all linen soiled by cholera dejections should be plunged in boiling water, and allowed to remain submerged for fifteen or twenty minutes.

The Situation.—Public health conditions in the United States remain free from sensational features, despite the efforts of an occasional daily paper to create alarm by its headlines. Even in Milwaukee, where the anti-vaccinists have done some mischief as elsewhere detailed in this issue of the JOURNAL, it appears from the latest report of Dr. U. O. B. Wingate, Secretary of the Wisconsin State Board of Health, that there have been only 55 cases of smallpox with 6 deaths since January last, and a total of 135 cases and 33 deaths in the entire State. (*Abstract of Sanitary Reports*, Aug. 10, inst.)

A British "tramp" steamer, from Liverpool *via* Colon, Belize, Honduras and Vera Cruz, has given the New Orleans health authorities some little concern on account of the development on board of a suspicious case of sickness after her arrival at the city pier; she had been detained at quarantine for seven days for cleansing and fumigation and was supposed to be free from infection. While there were some characteristic symptoms of yellow fever lacking, the case was sufficiently suspicious to warrant the return of the vessel, crew, and sick man to the quarantine station, which was done on the 14th.

There is little to add to last week's summary of the cholera situation in Europe. Only in Russia may the disease properly be called epidemic, although its spread in Austria-Hungary, in the crown-land of Galicia, is becoming threat-

ening—resembling in its features of extension, the invasion of 1872-3 in the fourth pandemic of the disease. There is also some increase, both in the number of cases and of infected localities, in Holland, Belgium and France. English and Continental sanitary authorities—except, possibly, those of Eastern Europe—still seem to be able to cope with the situation and to afford a sufficient measure of protection for this country.

Cremation Sanctioned.—The advocates of the substitution of cremation for earth burial, on the score of the sanitary advantages of the former will be gratified at the recent decision of Mr. Asquith, the Home Secretary for England, on an application for a faculty authorizing the interment of an urn, containing cremated remains, beneath the floor of a church. The faculty was granted and a precedent is thereby established which, at least in a country so largely influenced by precedent, can not fail to give a fresh impetus to the practice of cremation.

Congress of Hygiene at Buda-Pest.—From a recent bulletin of information concerning the forthcoming International Congress of Hygiene and Demography at Buda-Pest, it is learned that already 725 papers have been notified, of which 593 belong to the hygienic, and 132 to the demographic group of the Congress. A total of 290 public bodies with 620 delegates, including 26 Governments, have given notice of their intention to be officially represented. Many important towns—Berlin, Hamburg, Brünn, Paris, Montpelier, Venice, Odessa, Alexandria and San Louis de Potosi, have promised to send in plans and models of their public sanitary works. Of the papers and lectures the following are given special mention: 1. Dr. Ernest Hart (London), Protection against Cholera in the Orient, and the Hypothesis of its Epidemic Diffusion; The Propagation of Cholera by River Communication and by Railway Lines; the direct connection between the Propagation of Cholera and of Typhoid Fever by Water, Milk and Food, together with the proved connection between the Suppression of Cholera and Typhoid Fever, and the Improvements in the System of Drainage, etc.; 2. By Prof. Dr. E. Leyden, Med. Privy Councillor (Berlin), On Provisions made by large Towns for Consumptives; 3. Prof. Dr. George Mayr (Strassburg), On Statistics and Social Science; 4. Baurath Herzberg, C.E. (Berlin), The Civil Engineer's Work in Hygiene; 5. Prof. E. Levasseur (Paris), The History of Demography; 6. Prof. Dr. E. T. Erisman (Moscow), The Struggle with Death; 7. Prof. Dr. C. Lombroso (Turin), The Criminal.

Tobacco as a Bactericide.—Can cigars be made a medium for the propagation of the cholera infection? is the question which Dr. Wernicke answers (*Hygienische Rundschau*) in the negative, after a series of careful experiments. He made cigars, using in the preparation of the tobacco leaves, water to which the cholera bacilli had been added, and also by placing within the cigars a small piece of cloth impregnated with a culture in broth for one day, and rolling up the last or outer layer or leaf with hands moist with water containing the specific bacilli. After remaining twenty-four hours in the oven the cigars were used to inoculate cakes of gelatine. The inoculation was effective only with the pieces of cloth placed within the cigar; on the tobacco leaves the cholera bacilli were already destroyed by the development of other microörganisms. In all cases the spirillum was found dead after three hours of drying; it survived longest (two hours) in cigars made from Havana tobacco; one hour was sufficient to kill in Sumatra and seed-leaf tobaccos and thirty minutes in that from Brazil. It is worthy of note, in connection with the theory of the acid prophylaxis of cholera, that the last three kinds of tobacco had an acid reaction while that from Havana was alkalin. Wernicke also sought in vain for the presence of cholera bacilli in cigars manufactured in Hamburg, when the epidemic there was most severe, and while the cigars were still moist and contained a great number of other species of bacteria.

Kitasato's Discovery.—The "bill of particulars," which the JOURNAL last week intimated the bacteriologic world was awaiting with respect to the discovery of the specific plague bacillus, is furnished editorially by the *Medical Press* (Eng.) of August 1, inst. Soon after the appearance of the disease in Hong Kong the Japanese Government despatched Professors Kitasato and Aoyama to the island in order to study the disease. Both observers are well-trained bacteriologists. Dr. Kitasato, after taking his degree in medicine at Tokio, spent seven years at Koch's institute in Berlin, where he devoted his time to the bacteriology of infectious diseases. His fellow-worker, Dr. Aoyama, spent four years in similar studies under Prof. Koch. After much laborious work Dr. Kitasato is said to have discovered in the blood of a patient a bacillus which he believes to be the specific pathogenic organism of plague. This interesting microbe is found in the blood on the second day of the disease and proceeds to attack the principal internal organs of its host. It is described as being composed of very slender straight filaments of short length, of the form known among the Germans as a "stäbchen" bacterium. Both investigators are agreed that no such bacillus has yet been described in the human blood. Experiments made by Dr. Kitasato by subcutaneous injections of pure cultures of the bacillus have invariably killed the inoculated animal within two days. The resulting symptoms are stated to have been those of plague, although the symptoms of vomiting, diarrhea, and buboes were absent, possibly owing to the rapid develcpment of the disease. Kitasato's discovery is made the occasion of a tribute to Japan by the journal quoted, which says: "The mere fact of such a discovery being possible from that quarter of the globe is itself an eloquent testimony to the intellectual powers of a versatile and capable nation. A short generation ago medical science, as such, simply did not exist in Japan. To-day it is provided with universities and schools, where all branches of learning are taught by trained and highly educated natives. The identification of the plague bacillus is likely to be merely a matter of time, that is to say, if the conclusions of the two learned professors should not be upheld by later investigators. They may be congratulated, however, even at this stage of affairs, on the energy and learning which they have brought to bear upon the elucidation of an obscure etiologic problem. To our own mind there is no more marvelous phase of the modern development of Japan than that which enables it to join the foremost ranks of scientific thought and investigation."

NECROLOGY.

PHILIP H. PFARRE, M.D., of Brooklyn, died June 8, aged 24 years, at the home of his family, 196 Lincoln Place. He received a detail as interne of the Brooklyn Hospital in 1893, where he was still on duty when ill-health forced him to leave the institution. The fatal issue is reported to have been consequent upon an influenzal attack in December last, with endocarditis supervening. He was a graduate of the Long Island College Hospital, in the class of 1890.——Julius Wolfenstein, M.D., of Cleveland, Ohio, August 12.——R. M. Straus, M.D., of Chapmanville, August 5, aged 42.——W. Y. Royer, M.D., of Monticello, Ill., August 11, aged 56.

Blank Applications for membership in the ASSOCIATION at the JOURNAL office.

MISCELLANY.

A Doctor's Footsteps.—The laborious nature of a busy practice is illustrated by the story of a Swiss doctor, who is said to have counted his footsteps during the year by means of a pedometer. The total is a large one, namely, 9,760,900, or average of 26,740 daily. Of this number 600,000 to 700,000, or from 1,500 to 2,000 daily, are said to have been taken up by staircases.

Red Noses.—A German physiologist—or physiognomist—one Dr. Kelling, has, according to the *Journal de Médecine de Paris*, discovered a simple method of saving abstemious people who are afflicted with red noses from being mistaken for confirmed topers. According to Kelling, the "jolly red nose" is caused by a contraction of the venioles, producing sanguineous stasis of the capillaries and consequent loss of tone in the muscular parietes of these latter. His method of treatment, for which he claims entire success in upward of a score of cases, is as follows: A continuous current of medium (supportable) strength is passed through the peccant organ for from five to eight minutes, the two rheophores being the while freely promenaded all over the tinted surface. Sittings take place every two or three days, the violet-red color disappearing after from ten to fifteen applications.

Removal of Li Hung Chang.—If it be true, as reported by cable dispatches, that Li Hung Chang has been deprived of his premiership of the Chinese Empire, the cause of western medicine in the Far East will suffer a distinct loss. It was through his efforts that the Imperial Medical School at Tientsin was established and is now holding its first session in accordance with approved European methods of medical instruction. The Viceroy, who has been called the "Bismarck of China," is one of the most remarkable men of the age, having risen from obscure and humble parentage to be the actual ruler and chief administrator of an empire of 400,000,000 souls. Made Viceroy in 1863, at the age of 40, he has been the persistent friend and advocate of modern civilization; has permitted coal mining and coast steamer traffic to be carried on by the English, and has been favorable to the railroads; has founded a steamship line and is not opposed to European exploration of the Empire. No negotiations between China and other powers have been conducted of late years without his participation, and often the ambassador or ministers never got further than his palace at Tientsin. He represents the progressive party in China and his introduction of the telegraph, machinery, and European industrial methods has been accomplished with the greatest opposition from the mandarins of every degree. Naturally, he has incurred the enmity of these ultra-conservatives, who have probably made his alleged inactivity in the Korean difficulty the pretext for his present disgrace by the Emperor, Kuang Hsu—a young man of weak and yielding disposition, surrounded by courtiers who sedulously exclude from him all knowledge of the world of the nineteenth century and especially of the life of his people. It is recalled that the Viceroy was once before—in 1870, after the Tientsin massacre—similarly disgraced and his titles taken from him, on the ground that he had not properly assisted the general then in command. He remained in disfavor, however, less than two years, when he was restored to his office with increased power. As he is now in his seventy-second year and the present Emperor is so largely under the influence of the mandarins, such an event is not likely to be repeated; and it is to be feared that not only the Imperial Medical School will suffer but that medical missionaries in common with other civilizing agencies, will be driven from the Flowery Kingdom if Li Hung Chang has been deprived of his yellow jacket and the authority it symbolizes.

The Supply Table of the Army Medical Department.—The Surgeon-General of the Army has issued a new edition of the "Supply Table of the Medical Department," an octavo pamphlet of fifty-one pages. In turning over its pages one is impressed with the liberality of the Government to the sick soldier. Everything needful for his treatment is on the list, with the complete outfit of a dispensary and hospital wards. The allowance for a year of the various articles of the materia medica is given for posts having an official population of from 100 to 1,000; the phrase "official population" including those other than soldiers entitled to medical attendance and medicines. The list of drugs in this edition of the "Supply Table" differs from its predecessors in two notable particulars; in the use of the official or pharmacopœial instead of the English name of the article, and in the adoption of the metric system of weights and measures. Thus, instead of "iron chlorid tincture, in 1 pound bottles" we now find, "ferri chlorid tinctura in 500 c.c. bottles," and instead of "silver nitrate, molded, in 1 ounce bottles," we have "argenti nitras fusus in 25 gram bottles," and so on. Following the medicines are lists of antiseptics and disinfectants, hospital stores, microscopic accessories, stationery, surgical instruments, appliances and dressings, furniture, bedding and clothing and miscellaneous articles, the last beginning with such items as bandage winders and bath bricks and ending with washtubs. The routine giving out of disinfectants to be scattered about a military post is prohibited. Not long ago the Surgeon-General notified his officers to give no countenance to the mistaken idea prevalent among officers and non-commissioned officers of the Army, that disinfectants are required for general post sanitation. In the absence of infection there is no need for disinfectants. Sulphate of iron and other cheap deodorants may be used when necessary, but the necessity for their use is a reproach on the sanitary police of a military post. The remedy for offensive water-closets, bad smelling urinals and foul drains is cleanliness and strict sanitary police, not disinfectants. Sterilized dressings are not issued; their preparation being so simple and so well understood they are expected to be prepared as needed. Medical and surgical chests are to be kept in perfect order for immediate service in the field. The Bausch and Lomb Universal is the microscope now issued by the Army Medical Department, although the Investigator of the same makers and a few of Beck's Binocular are still in use. A chemic and a bacteriologic set are issued to enable medical officers to carry out original investigations and to throw light on such sanitary questions or medical cases as may require special inquiry. No list of medical books is included in the "Supply Table," as it is considered that owing to the rapid advances in medicine a large part of any fixed list soon becomes obsolete. Such new books as may be selected by the Surgeon-General are furnished to military posts. The *Index Medicus* is supplied all posts, in order that medical officers may be informed and make use of the latest additions to the library, books from which may be obtained on application and payment of express charges both ways.

The Weather in 1893.—The annual summary of the weather for 1893, edited by Prof. Cleveland Abbe, has just been issued from the office of the Weather Bureau. The barometric pressure was below the normal .02 to .05 in the southwest, the interior valleys and the upper lake region, but above the normal by .02 or .03 in the extreme northeast and at several Pacific coast stations. The mean temperature was highest in Florida, Arizona and Southern Texas, the

maximum being 76.9 degrees at Key West, Fla. The isotherm of 60 degrees Fahr. passed from Hatteras, N. C., westward through Central Arkansas, Oklahoma to Southern California. The isotherm of 40 degrees passed from Central Maine westward over Lake Huron, Central Wisconsin, Northern Montana and thence northwestward through Alberta. The lowest annual averages within the United States were 29.9 degrees at St. Vincent, Minn., 35 degrees at Moorhead, Minn., and 37.4 degrees at Duluth, Minn., and at Sault Ste. Marie, Mich. The mean annual temperature was above the normal in the South Atlantic and Gulf States and the Eastern Rocky Mountain slope, the maximum excess being 2.2 degrees at Abilene, Texas. Elsewhere, temperature was usually below the normal, the maximum deficit being 4 degrees at St. Vincent, Minn., 2.9 degrees at Portland, Me., 2.4 degrees at Chicago, Ill.

The maximum temperatures of the year were noted at Fort Yuma, Ariz., 111 degrees June 7 and August 2; Tucson, Ariz., 107 degrees, June 7 and July 1; Miles City, Mont., 107 degrees, July 25; Dodge City, Kan., 106 degrees, June 23 and Red Bluff, Cal., 106 degrees, August 4. The lowest temperatures were—45 degrees at Havre and Miles City, Mont., February 1;—42 degrees at Helena, Mont., January 31 and St. Vincent, Minn., February 1; and—41 degrees at Bismarck, N. D., January 1. The range of temperature was least in Florida and on the Pacific Coast, greatest in Montana and North Dakota. The smallest ranges noted were 39 degrees at Key West, Fla., 40 degrees at Eureka, Cal., 50 degrees at San Diego, Cal., 54 degrees at San Francisco, Cal., and 55 degrees at Galveston, Texas. The largest annnal ranges were Miles City, Mont., 152 degrees; Havre, Mont., 148 degrees; Helena, Mont., and Bismarck, N. D., 144 degrees; Moorhead, Minn., 140 degrees and St. Vincent, Minn., 138 degrees. The greatest annual rainfalls were 104 inches at Tatoosh Island, Wash., and 118 inches at Neah Bay, Wash. The precipitation exceeded 80 inches on the coast of Washington and 40 inches on the coast of California. It was from 2 to 10 inches in Nevada, from 10 to 40 inches in Idaho, and from 5 to 20 inches in Arizona; on the eastern slope of the Rocky Mountains from 5 to 15, increasing as we go eastward until in the Mississippi Valley it ranged from 25 at the northern and to 45 or 50 inches at the southern. Along the Atlantic coast the fall was generally about sixty inches, diminishing northeastwardly to Eastport, Me., which had about thirty inches and southwardly to Key West, Fla., which had 22 inches. The annual rainfall was generally deficient particularly so in Louisiana, Kansas, the interior of Georgia and Southern Florida; only in the north Pacific districts was there an excess of rainfall.

Collective Investigation of the Continued Fevers.—A most interesting class of diseases and one, as yet, but imperfectly defined, are the long continued fevers of the South. A special committee of the Orleans Parish (La.) Medical Society has been created for their collective investigation, and Dr. F. W. Parham, of New Orleans, Chairman of the committee makes (*New Orleans Medical and Surgical Journal*) a preliminary announcement of the plan of the work. Physicians will be requested to record accurate data of their cases of continued fever and keep clinical charts. Blank forms will be drawn up by the committee and sent throughout the State asking for information on important points in the pathology and treatment of this class of fevers, to the end that the investigation may be as complete and as thorough as possible. The pathologic investigation will be conducted by the pathologists of the committee, Drs. Archinard, Pothier, Bruns and McShane, who will study especially the means of differentiation of this from malarial and other fevers of Louisiana, having particular reference to the diagnostic data furnished by the bacteriologic investigation of the discharges and the minute examination of the blood. The clinicians of the committee, Drs. Matas, Chassaignac, Salomon, Martin and Bloch, will gather all other data bearing on the subject, and the whole committee will collate the results of the investigation and present its conclusions at the annual meeting of the Orleans Parish Medical Society next spring.

The committee will undoubtedly avail itself of the results of the work done in this direction by the U. S. Marine-Hospital Service in 1888–90, under the following order:

RECORD AND CLASSIFICATION OF CONTINUED AND REMITTENT FEVERS.

1888. Department No. 65.] Treasury Department.
OFFICE SUPERVISING SURGEON-GENERAL, MARINE-HOSPITAL SERVICE.
WASHINGTON, D. C., June 7, 1888.

To Medical Officers and Acting Assistant Surgeons:

With a view of formulating a more precise symptomatology of the "continued" and "remittent" fevers, from and after July 1, 1888, you are directed to take full and accurate notes of all cases of "continued" and "remittent" fevers, treated by you among patients of the Marine-Hospital Service and to make special semi-annual reports of all such cases to this office.

The cases of fever should be classified, as far as practicable, according to the symptoms in each case, into simple continued, enteric, remittent, etc., and every symptom noted.

The presence or absence of the following symptoms relative to enteric fever should be carefully noted, together with the dates of their respective appearance:

Eruption;
Diarrhea;
Tympanites;
Intestinal hemorrhage;
Peritonitis;
Temperature range;
Enlargement of spleen;
Delirium (character);
Mode of onset (gradual or sudden), presence or absence of initial chill;
Necropsy;
Presence or absence of intestinal lesions, and if present, give exact location.

JOHN B. HAMILTON,
Supervising Surgeon-General.

Approved:
C. S. FAIRCHILD, Secretary.

The reports thus provided for were continued up to June 30, 1890, and cover a total of 339 cases—241 of the enteric group, 87 of the remittent group and 11 of the simple continued fevers, the details of which will be found in the Annual Reports of the Supervising Surgeon-General for the years 1889 (p. 243) and 1890 (p. 96).

Positive Proof Necessary to Warrant Revocation of License.—Gradually the courts are teaching medical licensing bodies the forms of procedure to be observed, the competency of evidence, the methods of pleadings and the rights of individuals, in trials involving the tenure of the license to practice. Another important and valuable lesson on this subject is contained in the decision of the Supreme Court of Montana, rendered March 17, 1894, in the case of the State v. Kellogg. This was an appeal to the Court against the revocation of Kellogg's license by the State Board of Medical Examiners on a complaint of "unprofessional, dishonorable or immoral conduct." The complaint, as it reached the Court, charged that the defendant, a licensed physician, 1, threw into a furnace with intent to destroy it, a human acephalous fetus seven months old; 2, that, at a coroner's inquest upon this fetus, he certified that it was three months and a week old, and refused to give the name of the mother, but promised to divulge the name to the coroner the next day, who could use his discretion; 3, that, at the inquest on the following day, he testified that the woman whose name was demanded had left the State and, without her presence to explain her condition at the time the fetus was taken from her, his answer, under the circumstances, would incriminate him and be testimony against him. Upon trial of these charges before the Board the defendant was found guilty of immoral, unprofessional and dishonorable con-

duct, and his license to practice medicine in Montana was revoked. The evidence upon which this judgment was based was not presented to the Court, which had before it only the complaint embodying the charges above set forth. The Court analyzes these charges *seriatim*, and finds nothing in the complaint inconsistent with the theory of innocence of wrong doing or intent on the part of the defendant. The Court severely criticizes the manner and form of the complaint and its ineptitude. It is said to hint at guilt, but to leave open the hypothesis of innocence. If true, the defendant might be guilty and he might be innocent. Pleading of such a nature, it was said, would not do in a civil case, and it surely must not be allowed in a quasi-criminal case. Concede that the facts set up in the complaint raise a grave suspicion of the commission of an abortion by the defendant. Must he prepare for trial upon a suspicion? To be a member of an honorable profession, such as that of medicine, should raise his conduct above suspicion. But if circumstances arise which may, under one construction, cast a suspicion upon a physician, and if the circumstances are susceptible also of a construction consistent with his innocence, then, if the construction of guilt is to be adopted, the guilt should be charged, and not left to inference. And while extending all approval to legislation intended to exclude immoral and dishonorable conduct from an honorable profession, yet the spirit of our American law is such that the Court must hold that a doctor, to be tried for professional misfeasances, is as much entitled to a clear charge and specifications against him as has a burglar or murderer the right to a definite, specific indictment. The judgment of the Board was reversed.

The Metric System in Pharmacy.—At a recent Council meeting of the Pharmaceutical Society of Great Britain, Mr. W. Martindale moved the following resolution: "That after Jan. 1, 1895, a practical knowledge of the metric system of weights and measures shall be required of all candidates for the Minor Examination in the subjects of prescriptions and practical dispensing, and that the Board of Examiners be instructed to require from candidates a general knowledge of posology in terms of the metric as well as the British system of weights and measures as defined by the British Pharmacopœia, 1885; and in practical dispensing 'to weigh, measure and compound medicines' by the metric as well as the British system of weights and measures." After some discussion the resolution was altered to the effect that the Board of Examiners should be requested to consider the advisability of acquiring a practical knowledge of the metric system of weights and measures for the Minor Examination. In this form it was carried.—*British Medical Journal.*

A Wide-awake Hospital Administration in Madagascar.—The following are some points taken from a report, prepared by Drs. S. B. Fenn and C. F. A. Moss, relative to their work at the hospital supported by three English missionary societies at Antananarivo, Madagascar. These two gentlemen, with some aid from English laymen and from natives trained by themselves, have been enabled to build up a hospital with four or more dispensaries, and training schools for nurses and for physicians and surgeons. They show in their work great energy, enterprise and shrewdness:

"1. *In-patient Work.*—The hospital is always open the year round, for the reception of patients. A few years ago the reluctance shown by the people to enter a hospital was great, as they did not like the necessary restrictions and rules. But this, we are glad to say, is gradually but surely giving way, and with this larger and better hospital we are often over-crowded, and are obliged to refuse admittance to some. Many, too, come from great distances, and these we are always glad to see, for they carry back with them to their distant homes accounts of what they have seen and heard. Short services are held in each ward morning and evening, and as opportunity offers the good seed is also sown by private talks with the patients.

Let me add that the hospital, being also a training institution, is worked very much on the same plans as our hospitals at home. There are staff nurses, nurses and probationers, also clerical clerks among the students. Temperature charts, notes, and histories of cases are all carefully made and kept, and as far as the time and strength of two doctors and one lady superintendent permit, the work is done thoroughly.

"2. *Out-patient Work.*—There are four dispensaries connected with the Medical Mission. One is at the hospital itself, where patients are seen three days a week. Another is situated at the north end of the town, near the great market-place, and is opened three times a week also. A third dispensary is at the extreme southern end of the city, where patients are seen on Mondays and Thursdays, and a fourth is at the little town of Ilazaina, about eight miles north of the capital.

"3. *Teaching of Students.*—The training department of our work, viz., that of young women as nurses and midwives just mentioned, and that of young men as doctors, is perhaps the most important of all. There are at present over fifty students in the Medical Missionary Academy, under the management of a conjoint board, representing three societies in England. The students have to pass an examination on general education before entering on their medical studies. If this is done successfully, the first year is devoted to science subjects, viz., botany, physics, chemistry, zoölogy, also Latin and English. If they pass the examination in these subjects and have proved to be worthy men, they are allowed to commence their medical studies proper. These are pursued for at least four more years. The first two are spent in studying anatomy, physiology, histology and materia medica, and the last two are especially devoted to clerical work in the hospital, medicine, surgery, midwifery and gynecology. A final examination is held once a year, after which the successful candidates publicly receive the diploma of the Academy. Over twenty young men now hold this diploma. Some have practices in town, and many are settled in country districts and doing excellent work. Thus by spending our time and labor on the few we are, in reality, benefiting the many.

"4. *Outside Work.*—Not much need be said on this point. My esteemed colleague, Dr. C. F. A. Moss, and myself, find our time more than fully occupied with the direct work of the Mission. Still, there are missionary families and others to be attended to in illness, and occasionally visits have to be paid to Malagasy patients at their homes. A little literary work, too, is done from time to time, and the preparation of suitable text-books for the students is slowly advancing."

There is a band of forty Malagasy women who have been trained to serve as a nursing staff at the hospital and dispensaries.

Washington Notes.

City Pumps.—A number of pumps for drinking water have been closed by order of the Commissioners because they were found more or less contaminated by surface drainage, and others have been marked for inspection by the District chemist.

Assisting Unregistered Physicians.—It has come to the notice of the Health Department that an unregistered physician was attending a case which died, and as he could not sign the death certificate secured the signature of a friend, a registered physician. The matter will be investigated.

Central Dispensary and Emergency Hospital.—The monthly report for July shows the following: Number of new cases, 1,121; number of visits, 3,011; number of prescriptions, 2,496; ambulance calls, 34; number of deaths from all causes, 6; number of autopsies, 6; number of emergency cases, 316; number of operations, 164; number of redressings for minor cases, 207.

Capital Water Supply Endangered.—Col. John M. Wilson, in charge of public buildings and grounds, has called the attention of the Commissioners to the fact that Eckington and Soldiers' Home Railroad Company, in constructing

the new track at Florida Avenue and North Capitol Street, has placed ties apparently immediately over the four-inch water main which conveys the drinking water from the Capitol Spring to the Capitol. Col. Wilson says the pipe will probably be broken as soon as cars are run over the track. The pipe was laid by the United States about fifty years ago, the right of way having been purchased by the Government.

BURIAL PERMITS INACCURATE.—It has been found by the Health Department that in some cases where the certificate of death showed that the deceased was to be buried in a given cemetery it was afterward found that the remains were in another. A case in point showed a body supposed to have been buried at Mount Olivet was in reality buried at Arlington. These cases are for some reason quite frequent. The matter will be investigated. A heavy fine is the penalty for such an offense.

MIDSUMMER DEATH RATIO.—The health conditions of the city as shown by the returns of the Health Department for the past week are good. Infant mortality is on the decline. Contagious diseases, as well as those of the lungs, are seen to be in almost complete abeyance, only one death from diphtheria and one from whooping cough being reported. Number of deaths, 127; white, 60; colored, 67; death rate per 1,000 per annum, white, 17.9; colored, 34.7; total population, 23.1; 44 were under 5 years of age; 33 under 1 year and 25 over 60 years. Twenty-six deaths occurred in hospitals or public institutions. The deaths by classes were as follows: Zymotic, 36; constitutional, 24; local, 49; developmental, 9; violence, 9; principal causes were: Croup, 1; diphtheria, 1; consumption, 8; diarrhea, 16; typhoid fever, 13; malarial, 2; congestion of lungs, 1; bronchitis, 1; whooping cough, 1; kidney diseases, 4; meningitis, 2; cancers, 6; births, 90; white males, 31; females, 24; colored males, 17; females, 18; marriages, 36; white, 29; colored, 7; still births, 2 white and 8 colored.

GARBAGE DISPOSAL.—Considerable friction exists between the Health Departments of Washington and Alexandria, Va., growing out of the anchoring of garbage scows too near the latter city. Upon the failure of the contractor to abate the nuisance, after due notice, the Alexandria authorities attempted to burn the boats; they were so wet that fire failed so dynamite was resorted to and the objectionable, foul smelling scows scattered. The present contract of the garbage company is in force until July 1, 1897. In the District appropriation bill, as it passed the House, $29,500 was provided for the collection of garbage, being the amount of the company's yearly contract, with a slight addition for extra daily collections during the summer months. When the bill reached the Senate the sum of $30,500 was added to provide for the disposal of the garbage by cremation or otherwise within the limits of the District, making a total appropriation of $60,000. When the bill went to conference, the Senate amendment was knocked out and the bill was finally passed with the item for garbage the same as provided by the House, and the Commissioner directed to further investigate the matter of garbage disposal and report with plans and estimates to the next session of Congress. The Commissioners think, however, that they will be able to secure the additional appropriation desired before the present session adjourns.

Deaconess' Hospital, Dayton, Ohio.—The trustees of the Deaconess' Hospital, Dayton, Ohio, held their regular monthly meeting August 7. The Superintendent's report was as follows: Number of patients in hospital June 30, 19; admitted in July, 29. Total number treated, 48. Dismissed, 17; died, 3. Number remaining in hospital August 1, 28.

THE PUBLIC SERVICES.

Postponement of Examinations for the Army Medical Department.—Candidates for permission to appear before an Examining Board for entrance into the Medical Corps of the Army have received the following letter, signed by Major Charles Smart, from the office of the Surgeon-General:

SIR:—I have the honor to inform you, by direction of the Surgeon-General, that the number of assistant surgeons in the Medical Corps of the Army was reduced by recent Act of Congress from 125 to 110. There being therefore no vacancies to be filled, no Examining Board will be convened at present, nor until the number of assistants is reduced by casualty below 110 (there are now 115). It is impossible to say when this will occur, but due notice of the next Board will be given in the medical press, so that you can renew your application if then eligible. It is expected that the age limit will hereafter be 22 to 29.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from August 4, 1894, to August 10, 1894.

Capt. WILLIAM J. WAKEMAN, Asst. Surgeon U. S. A., granted one month's leave of absence, on completion of his duties at Ft. Thomas Rifle Range, Ky.

Capt. W. FITZHUGH CARTER, Asst. Surgeon, is granted leave of absence for one month, to take effect about Aug. 5, 1894.

A board of medical officers to consist of Major VALERY HAVARD, Surgeon; Major JOHN VAN R. HOFF, Surgeon; Major GEORGE H. TORNEY, Surgeon, is, by direction of the Secretary of War, appointed to meet at West Point, N. Y., Aug. 15, 1894, or as soon thereafter as practicable, for the physical examination of the cadets of the first and third classes; the cadets of the second class on their return from furlough, and such other cadets of the Military Academy, and candidates for admission thereto, as may be ordered before it.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending August 11, 1894.

Medical Inspector F. L. DUBOIS, detached from U. S. S. "Chicago," ordered home and granted two months' leave.

LETTERS RECEIVED.

(A) Asdale, W. J.,.Pittsburg, Pa; Alexander, E., El Paso, Texas; Aschman, G. A., Wheeling, W. Va.

(B) Bates & Morse Advertising Agency, New York, N. Y.; Bacon, C. S., Wood's Hall, Mass.; Buxton, G. E., National City, Cal.; Bowman, A. H., Deadwood, S. Dak.

(C) Colvin, D., (2) Clyde, N. Y.; Collins, John P., Philadelphia, Pa.; Chapman, B., Copley, Ohio; Coates, Truman, Russelville, Pa.

(D) Dunglison, R. J., Philadelphia, Pa.; Douchy & Co., New York, N. Y.

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PAMPHLETS RECEIVED.

Remarks on Hog Cholera and Swine Plague. By Wm. H. Welch, M.D., and A. W. Clement, U. S. Johns Hopkins University.

Vaginal Hysterectomy for Cancer; 23 cases. By W. F. McNutt, M.D., California.

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Higher Medical Education and the Need of its Endowment. By Wm. H. Welch, M. D., Baltimore, Md.

Response to Toast. "The Country Doctor." Colorado State Medical Banquet. By Jesse Hawes, M.D., Greeley, Colo.

Fifth Annual Meeting Illinois Army and Navy Medical Association, Decatur, Ill.

The Reactions of Nucleo-Albumin with the commonly employed Urinary Albumin Tests. By D. D. Stewart, M.D.

Differential Diagnosis of Alcoholic Coma, etc. By L. D. Mason, M.D., Fort Hamilton, N. Y.

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